The Magazine of

STANDARDS

April 1954

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STANDARDS

Formerly Standardization

April 1954 Volume 25, No. 4

Published monthly by American Standards Association, Incorporated
70 East 45th Street, New York 17, N. Y.

In This Issue

MARGINAL NOTES

The Authors —

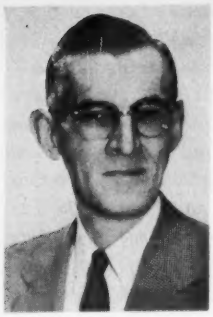
W. B. Fleming ("How Jeffrey Organized a Company Standards Department," page 109), studied Electrical Engineering at Carnegie Tech. His first job was sales engineer for Fawcus Machine Company in Pittsburgh; then in the Efficiency Department of Pittsburgh Plate Glass Company doing time study and rate setting. In 1929 he became chief design engineer on underground conveyors for Gellatly and Company of Pittsburgh, and moved to Columbus, Ohio, for The Jeffrey Manufacturing Company when Jeffrey bought out Gellatly. He was design engineer on underground conveyors for Jeffrey for seven years, assistant superintendent of the factory for nine years, and has been manager of Jeffrey's new standards division for four years. Mr Fleming is now chairman of the Company Member Conference.

J. R. Chamberlain ("Standards in the Refrigeration Industry," page 113), graduated from Duke University with an AB Degree and from Cornell University with an ME. Upon graduation, he entered the Student Training Course at York Ice Machinery Corporation (now the York Corporation) and has been a member of the York Corporation's Engineering Division (Industrial Department) to date.

The Front Cover —

This 24-in. overland belt conveyor delivers 2000 tons of coal daily to the stockpile from the mine 1½ miles away. This photo shows the incline section of the conveyor as it rises from the mine tipple at right background. (See page 108).

Single copy 50¢. $7.00 per year (foreign $8.00). Schools and libraries $5.00 (foreign $6.00). This publication is indexed in the Engineering Index and the Industrial Arts Index. Re-entered as second class matter Jan. 25, 1954, at the Post Office, New York, N. Y., under the Act of March 3, 1879.



THIS MONTH'S STANDARDS PERSONALITY

W. P. Kliment was given a challenging responsibility this year, added to all those he is already handling, when he was elected chairman of ASME's Standardization Committee. This committee, under the authority of the ASME Board of Codes and Standards, supervises all the Society's standards activities. These include personnel, progress, and draft standards prepared by sectional committees for which ASME holds the sponsorship. There are 30 of these, handling such important standards as small tools and machine tool elements, drawing and drafting practice, screw threads, gears, pipe flanges and fittings, and surface finishes. The Standardization Committee has the distinction of having been responsible for the first American Standard approved by the American Engineering Standards Committee (now the American Standards Association). This was the American Standard for Pipe Threads, B2.1-1919.

This is only one of the many jobs that keep Mr Kliment's engagement book full to overflowing. He is also a member of subcommittees and special committees of the ASME Power Test Code Committee and Boiler Code Committee, and is active in other organizations. As Engineer of Standards of the Crane Company (he has been with the company for 30 years), he is particularly interested in valves and fittings, and holds a number of patents dealing with maintenance and usage of specialties pertaining to them.

He is a member of the Executive Committee of the Manufacturers Standardization Society of the Valve and Fittings Industry and represents the Society on four sectional 21 committees — pipe flanges and fittings, bolts and nuts, pressure piping, and surface finish — as well as on ASA's Standards Council.

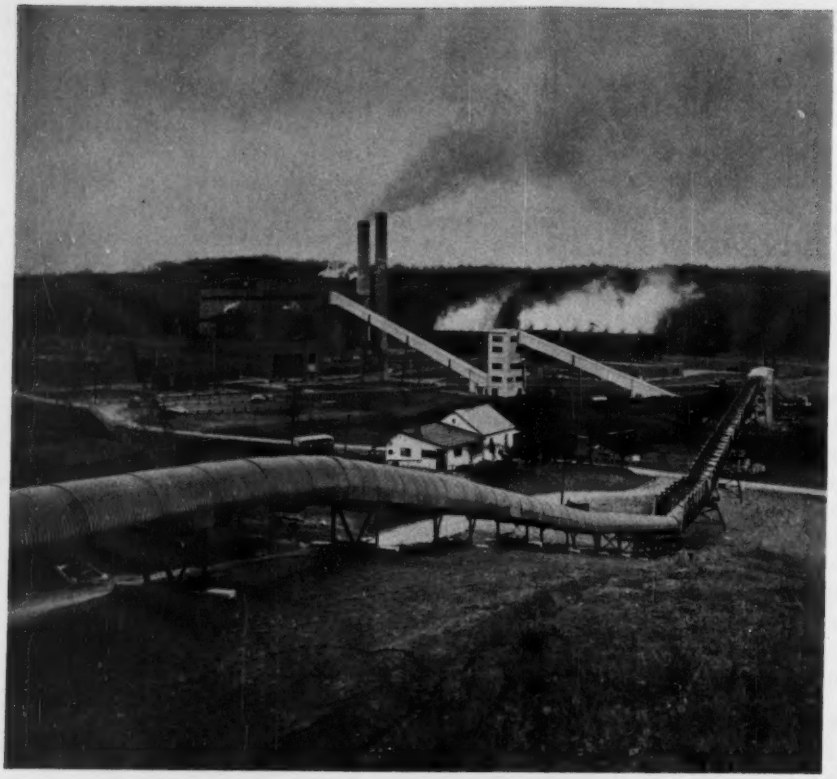
Mr Kliment is chairman of the Manufacturers' Subcommittees on Valves of the Committee on Refinery Equipment of the American Petroleum Institute. He is also chairman of the Manufacturer's Subcommittee on Production and Pipe Line Valves of the API Division of Production.

As the MSS representative on ASA's Standards Council, he is serving on the Board of Review, the small group selected by the Council to speed action on approval of standards and new projects.

Mr Kliment has been one of the strong supporters of the Company Member Conference. As a former chairman and member of its Administrative Committee, he had an important role in building the Conference into an effective organization.

Mr Kliment sees his chairmanship of the ASME Standardization Committee as a serious responsibility. "ASME is sponsor for a great number of standards which are important to a large segment of American industry," he says. "Therefore, the ASME Standardization Committee is called upon to review these standards with extreme care."

Between meetings and his work at the Crane Company headquarters in Chicago, Mr Kliment finds time to study the stars. He and his two young sons operate a 6-in. telescope which he proudly boasts he made himself, even to grinding the lenses. Some day he hopes to mount the telescope through a hole in his roof — when Mrs Kliment permits him to do so.



• **Panorama** *of coal-handling system installed by The Jeffrey Manufacturing Company for the Columbus & Southern Ohio Electric Company. In foreground is 24-in. overland belt which delivers 2000 tons of coal daily from mine 1½ miles away. In background are two 36-in conveyors, from hoppers to crusher house, and from crusher house to power house.*

• **Typical** *technical committee meeting on Standards — left to right, Morton Curley, Assistant to the Vice-President in Charge of Engineering; James A. Flint, Vice-President in Charge of Engineering; Glenn Russell, Manager of Order and Specifications Department; Fred Leupp, Standards Engineer; H. F. Hackbarth, Assistant Manager of Standards Division; and W. B. Fleming, Manager, Standards Division.*

How *Jeffrey* Organized a Company *Standards* Department

by W. B. FLEMING

MANY factors involved in organizing a standards department are common to all companies, but each company necessarily will have to work out the factors in a different way.

The diversity of its products, whether the products are mass-produced or tailor-made, the age and size of the company, the geographical location, whether the product is a basic raw material or a finished product, all these will have an influence on a company's approach to standards and its results from them.

The Jeffrey Manufacturing Company is a wholly-owned subsidiary of The Jeffrey Company. The other wholly-owned subsidiaries are The Galion Iron Works of Galion, Ohio, which builds road machinery; The Ohio Malleable Iron Company, Columbus, Ohio; the Jeffrey Manufacturing Company, Limited, of Montreal, Canada; the British Jeffrey-Diamond, Limited, of Wakefield, England; and the Jeffrey-Galion (Proprietary) Limited, of Johannesburg, South Africa. Our standards program, for the present, is confined mainly to The Jeffrey Manufacturing Company at Columbus; however, the other subsidiaries are supplied with Standards Books.

The Company was organized 76 years ago, in 1877. As the first and only manufacturer of coal-cutting machines, the Company prospered in spite of the usual growing pains that any new company and product encounters.

As Jeffrey held many basic patents on coal-cutting machines, there was a period during its growth when profits were easily made. At a time like that, standards are not considered, as the luxury of being without them can well be afforded.

There has been very little confusion at Jeffrey due to the lack of standards. A large percentage of the employees have grown up in the Company, and are well acquainted with all the different procedures.

Promotions have been mostly from within the Company. This has its many advantages but can become costly in the long run if procedures are not standardized.

During the past 12 years it has been necessary to hire many additional employees to increase the size of departments. It became very evident that long training periods were required for the new people to learn all the special routines.

Many of you no doubt remember a time when bolts and fasteners were purposely made special to insure the repair part business. Our Company was no exception; so you can see that standardization was far from their thoughts for many years.

Today the Company manufactures mining machinery, bulk material-handling equipment, conveying and transmission chain in the larger sizes, and vibrating feeders and conveyors. The Columbus plant employes about 3000 people.

The Company is still owned and controlled by the Jeffrey family. Several members of the recent generation are active in its operation.

The products are, and have been, so varied that very little was done in the past to coordinate the activities of the different departments. The Company is divided into two distinct groups known as the Mining, and the Conveying Divisions. The Mining Division has two separate engineering departments and the Conveying Division has three engineering departments.

Before the standards program was undertaken, each engineering department had its own procedures, practices, and methods of specifying material.

Neil McDonnell
W. B. Fleming

Mr Fleming is Manager of the Standards Division, Jeffrey Manufacturing Company, Columbus, Ohio. This paper was presented at the ASA Company Member Conference October 20, 1953, held during the Fourth National Standardization Conference at the Waldorf-Astoria, New York, October 19-21.

Two years ago a program to recruit graduate engineers from the colleges was started. It was imperative to have standard procedures to train this new group.

The Columbus plant is equipped to do all necessary operations except steel castings and drop forgings. For this reason very few parts were subcontracted before the war. During the war when it became necessary to subcontract a large amount of work, it became quite apparent that drawings were far from complete. With the large number of older employees in our shop, deficiencies in the drawings were not particularly noticed, as shop practice was able to interpret what was required. Nearly all parts that

were subcontracted required the time of our personnel to visit the vendor's plant and go over the drawings.

After the war, top management was sufficiently aware of the need for standards that the Standards Division was started in August of 1949. With the present competition for business, the luxury of being without standards could no longer be afforded.

In starting the Standards Division, the management contacted the American Standards Association for some suggestions as to personnel and methods for the work.

It was felt that a new man familiar with standards work should be hired to head up the department. The advice from American Standards was to pick a man from the organization who knew the plant and the people, and train him in standards work. This has proven over and over to be good advice, as we can readily see that a new man coming in from the outside would have three strikes on him before coming to bat. Every company has its share of rugged individualists, and ours is no exception. The older and more diversified the company, the more this is true. Most of us will readily admit that in a new standards department a large percentage of the work is with people and a smaller percentage is technical. We may differ somewhat on the percentages, but most of us will admit this premise.

Many outlines have been made giving the qualifications for a standards engineer. They usually end up describing "Superman," and I am sure many of you feel you need to be "Superman" at times.

In my opinion, the first and most important factor for a successful standard department is its position in the organization.

Standards, as a whole, have always been a voluntary movement in this country, and as far as I can see they are mostly voluntary in all companies. A selling job rather than a mandate will usually result in better conformance to the standards. Nevertheless, standards need to be directly under top management if the movement in an individual company is to succeed. The formulation and use of standards is usually not successful if it is a secondary function of a department. Top management need not play an active part, nor issue ultimatums, but the persons using standards must have a feeling that top management wants them to do so. It is too easy to follow the path of least resistance if top management assumes a lackadaisical attitude.

In the short time our Standards Department has been in existence, I have come in contact with several large concerns where top management is very little interested in standards. In every case the department is very ineffective, and in one case, the department has been completely reorganized. No doubt, in many companies where an active standards department has been in existence for a number of years it is now taken for granted to such an extent that top management plays little part in it so long as the standards program remains active.

What is standardization? It is not a goal — it is a means, an instrument, a tool. It is good when its effect is beneficient; it is bad when it is harmful.

— Ernest l'Hoste.

Standardization is a cooperative movement. It was gratifying when I visited other companies to find how willing and cooperative each and every one could be. There seemed to be no secrets about how each program was set up. It is hard to evaluate the help this can be in starting a new standards department.

The second most important factor is to have a person as manager of the standards department who knows the organization and the personnel. We have found that while some department managers are in favor of standardization, they think that their own procedures should be the standard. It is quite difficult for a standards manager who is not familiar with all procedures to reconcile the differences between department heads.

The next factor, and a very important one, is company membership in the American Standards Association. Through this membership, your company is in continuous contact with ASA. Notices of new and revised standards are sent monthly, with the option of a free copy to those who so desire it. Notices of all meetings are sent out. Many additional pamphlets relating to standards are distributed. The magazine is sent to all members monthly. This contains advance information on what is happening to standards in the United States as well as throughout the world.

Another factor is the need for a library of standards, and standards information. Very little has been written until recently about the problems involved in standards work and there are very few educational facilities in the colleges and universities in connection with standards. During and since the last war, drafting manuals and standards books have been obtainable from such groups as the Society of Automotive Engineers, the American Institute of Steel Construction, General Motors, and the Federal Government. The accumulation of a library of new and revised American Standards is a must to those in the mechanical field. There is no one source from which to assemble the information, and advantages should be taken of all available works.

For a number of years Dr John Gaillard has been teaching a course in standards at Columbia University. Dr Gaillard also gives a week-long seminar twice a year for men in industry. Until recently, most colleges and universities have not recognized standardization as a subject to be considered, but it is my understanding that such a subject is now included in the curriculum of many engineering schools. Until such time as men with standards training in their undergraduate work are available, it will be found very helpful for men new in the standardization field to attend the above-mentioned seminar.

Much benefit may be obtained by visiting other companies that have standards departments of long standing. Standards are necessarily a cooperative venture and can only be promulgated by close contact among the interested parties. Very often an established standards department

Production costs *are reduced by standard tooling. Here, foreman and workman discuss standard cutting of spline for breaker shaft (at pencil tip).*

may become aware of its shortcomings simply by the question a newcomer may ask, and the newcomer always derives much benefit from the contact. In my experience the persons who have been in standards work for some time are exceedingly helpful, and we in turn have tried to give the same consideration to those who have contacted us.

Use of standards being mostly of a voluntary nature, a new standards department can only expect conformity to the standards insofar as they are able to make the standards a useful tool, the path of least resistance, and easily located. Ease of location by means of an index is probably the most important of the three.

To date there has been very little work done nationally, or by ASA, on an index system for setting up a company standards system. Each company has its own methods. These vary from practically no system to those that are very complex.

It is not possible to do a complete index job right from the start, but we know from experience that quite a good job can be done by analyzing your own plant and making a basic index.

Our own index is patterned after the Dewey Decimal Classification and thus far it has worked out quite well. It was by no means complete when we started, but it has been expanded as it was needed.

As discussed above, any standards program to succeed must have reasonable conformance to the standards that are set. For one or two persons to attempt to set standards arbitrarily will spell disaster to any standards program. Unless the users of the standards are in on the formulating, only passive interest will be shown in their use.

We all know that the committee method of accomplishing anything is usually slow and cumbersome, but in organizing a new standards department, the committee method will usually get better results, especially when starting standards in an older company. It may take a little longer to set it up, but more permanent results will be the outcome in the long run.

Our Company has an executive committee and several technical committees of the Standards Department.

The executive committee is composed of department heads, and is supervised by the Vice-President in Charge of Engineering. It is the duty of the executive committee to formulate and approve the program, and to give the final approval on all standards. The executive committee met once a month at the beginning of the program four years ago, but now they only meet when it is necessary.

The technical committees are composed of personnel from departments directly involved in the particular standards. They are appointed by the department heads at the request of the Standards Department. The chairman of the technical committee is elected from the committee members. The Standards Department acts as secretary to all committees and distributes the minutes of the meetings. It is the responsibility of the technical committee members to make investigations, submit data, and formulate the standards. The Standards Department does the mechanics of writing and printing the material for the committees as well as printing and distributing the standards after final approval.

All company operations should be analyzed at the start of a standards program to see where standards can be used to the best advantage. It may mean product standardization to some and procedure standardization to others. In some companies a reasonable job may always have been done, but in our case, as in most others, the basic things, like drafting formats and engineering procedures, varied widely in the five engineering departments. When confronted with a condition of this kind, the basic standards must be worked out before product standardization can be started. The commercial parts and raw materials that go to make up the product

Using surface analyzer, *workman is testing gear to assure that finish is in accordance with standard requirements indicated in engineer's blueprint.*

must be standardized before standardizing can be done on the finished products.

After the analysis has been made, a general program giving the things you hope to obtain should be set up and approved by the executive committee. This program should be reconsidered at given intervals and adjusted to suit the ever changing needs and conditions.

When the time arrives to issue the first standards, the question of who shall receive them is sure to arise. Considerable time and thought should be given to this, as every set of Standards Books means not only the cost of issuing the standards, but also the cost to the company of the time involved for each individual to insert the sheets in the books. You will find some who need books who will feel the book is just a nuisance, because they want to be individuals and do as they please. Also you will find the other extreme that persons want a book who have absolutely no use for it. By discussion in the Standards Executive Committee, a list of names can be approved that should be a fairly accurate start. As the quantity of standards grows, more departments will be affected by the standards and more books may be required. A few may be returned as not needed. Each of these cases should be analyzed to see if the book is really not needed or if the person returning it feels it is a nuisance.

The format for the pages on which the standards are printed should be worked out and standardized before the first standards are printed. If the format is continually changed, you will have many comments to the effect that the standards department should standardize.

A distribution system must be set up for the books, and for future issues of standards. An accurate record of who has each book and where it is located must be kept. If every book is not kept current, faith in the standards can quickly be lost. The books are no better than their accuracy.

A part of the distribution system may be a method to see that the new standards are placed in the book. A request to have the obsolete standards returned to the Standards Department is one method that is often used. This is quite effective, but can very easily be an added burden to the Standards Department in checking on the "no returns." Each company must decide this on its merits.

Last, but by no means least, an educational program for those using standards books should be set up.

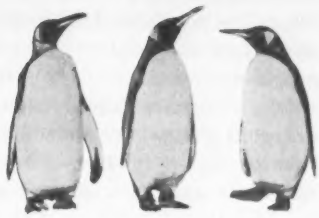
Many new standards that may be entirely foreign to the users will be distributed. Examples of this in our own plant are, Involute Splines, Surface Finish Symbols, and Drawing Revision Procedure. It is important that all persons involved become familiar with a new standard as quickly as possible so the Engineering and Operating Departments may understand each other through the medium of drawings and instructions. The educational program need not be set as a regular meeting, but only when something new requires it.

There are many ways that these factors may be worked into your own program. No doubt there are many other factors that may become apparent as a standards program develops, but the ones discussed came to light as our own work progressed.

To summarize these points:

1. A new Standards Program, to succeed, should be directly under top management.
2. The manager of the Standards Department should be from within the company. He should be quite familiar with the organization and personnel.
3. The company should be a member of ASA.
4. A library of standards and standards books should be acquired.
5. The standards manager should attend the Gaillard standards seminar.
6. Standards departments of other companies should be visited.
7. An indexing system for your standards should be set up at the beginning.
8. An executive committee for the standards department should be organized.
9. Technical committees for working up standards should be appointed.
10. Analyze company operations for a starting point.
11. Set up a general standards program at the start.
12. Make a list of those who should be issued standards.
13. Plan format for the standards.
14. Plan system for distribution of standards.
15. Plan education program to familiarize personnel with new standards.

Standards in the *REFRIGERATION* Industry



by J. R. CHAMBERLAIN

ASIDE from material specifications and standards, we in the Refrigeration Industry are concerned, most naturally, with standards relating directly to refrigeration. Of these there are two distinct types — those produced by trade associations, for example, the Air-Conditioning and Refrigeration Institute, the National Electrical Manufacturers Association, and others; and those promulgated within the framework of technical and scientific societies, such as the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers. Of some 425 technical and professional societies and trade associations, we must consider standards and representative opinions of at least 30. The flysheet of the ASA B9 Code[1] gives one a good idea of the interests represented in order to include the viewpoints on Safety in Refrigeration in that document.

The Refrigeration Industry, as a whole, utilizes and follows many standards which have been promulgated by others, because refrigeration crosses so many lines of endeavor. Following are some of the more important:

ASME Boiler and Pressure Vessel Code

Sponsored by the American Society of Mechanical Engineers. Pertains to pressure vessels used in condensers, receivers, etc. Enforced by adoption by state and municipal safety authorities and by reference in other standards. Widely recognized and accepted.

National Electrical Code

Sponsored by the National Fire Protection Association through ASA procedure. Pertains to safe electrical installation and application practices. Enforced by adoption by state and municipal safety authorities and by reference in other standards. Also enforced by Underwriters' Laboratories and insurance underwriters. Widely recognized and accepted in city and state fire ordinances. Issued by NFPA, National Board of Fire Underwriters, ASA.

Standards for Air Conditioning Systems (NFPA No. 90, or NBFU No. 90)

Pertains to installation of duct work for air conditioning and ventilating systems. Enforced by adoption by city and state fire ordinances.

American Standard Code for Pressure Piping, Section 5, Refrigeration Piping Systems ASA B31.1-1951

Sponsored by ASME and approved by ASA. Pertains to piping practice and is compatible with ASA B9.1-1953. This standard, by reference, recognizes many ASTM Specifications and American Standards.

Standard for Air Conditioning, Commercial and Domestic Refrigeration Equipment, Subject 207(A) Underwriters Laboratories, Inc.

Pertains to the requirements generally of Packaged Refrigerating and Air Conditioning Units of the smaller sizes, including electrical as well as refrigerant-containing parts. This standard is compatible with the ASME Boiler and Pressure Vessel Code and American Standard B9.1-1953, insofar as they also apply.

The American Standard Safety Code for Mechanical Refrigeration, ASA B9.1-1953

This Code is an outstanding contribution to the Refrigeration Industry. Sponsored by ASRE and promulgated through the facilities of ASA, it provides a common ground for Safety in Refrigeration. This Code was voluntarily promulgated and has the endorsement of users, manufacturers, safety agencies, and insurance underwriters. Former issues of B9 were dated 1930, 1933, 1939, and 1950.

From an address presented at the December 1953 meeting of the American Society of Refrigerating Engineers. Mr Chamberlain is Assistant Chief Engineer, York Corporation, York, Pennsylvania, and chairman of the Interpretations Subcommittee of Sectional Committee B9

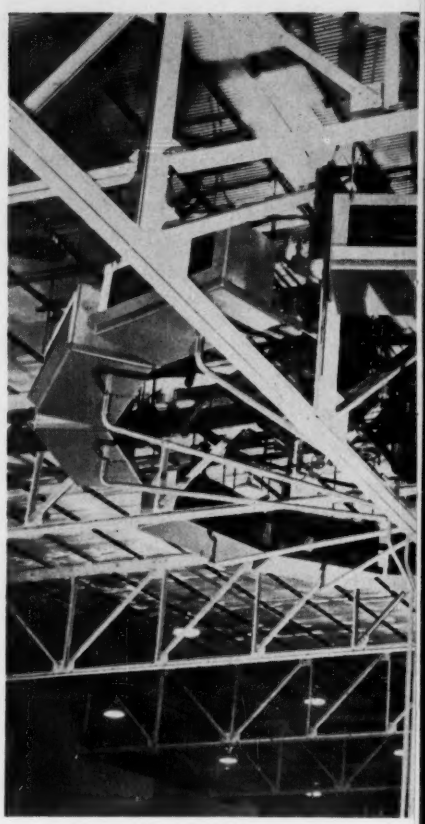
J. R. Chamberlain

[1] American Standard Safety Code for Mechanical Refrigeration, B9.1-1953. At the time this paper was presented, the new edition had not yet been approved. Since the 1953 edition is now available, Mr Chamberlain's references to the Code have been changed throughout to refer to the 1953 edition in place of the original reference to the 1950 edition.

This standard, as is the case of the others, has no official status or police power until adopted by state or municipal ordinances or laws. Fortunately, it has been adopted in total or in part by a large cross section of the country. Its importance is proven, since three trade associations, namely, ARI (which until recently was Air Conditioning & Refrigerating Machinery Association and Refrigeraeration Equipment Manufacturers Association), NEMA, and the Compressed Gas Association, Inc, finance the Refrigeration Industry Safety Advisory Committee. The sole function of this committee is to sponsor the adoption of the B9.1 Safety Code by state and municipal authorities. Savings that have accrued to refrigeration manufacturers from this standard are great, since they can build equipment to meet the Code and feel sure that it will be acceptable to the city or state enforcement agencies. This is generally true even in those localities where it is not yet adopted.

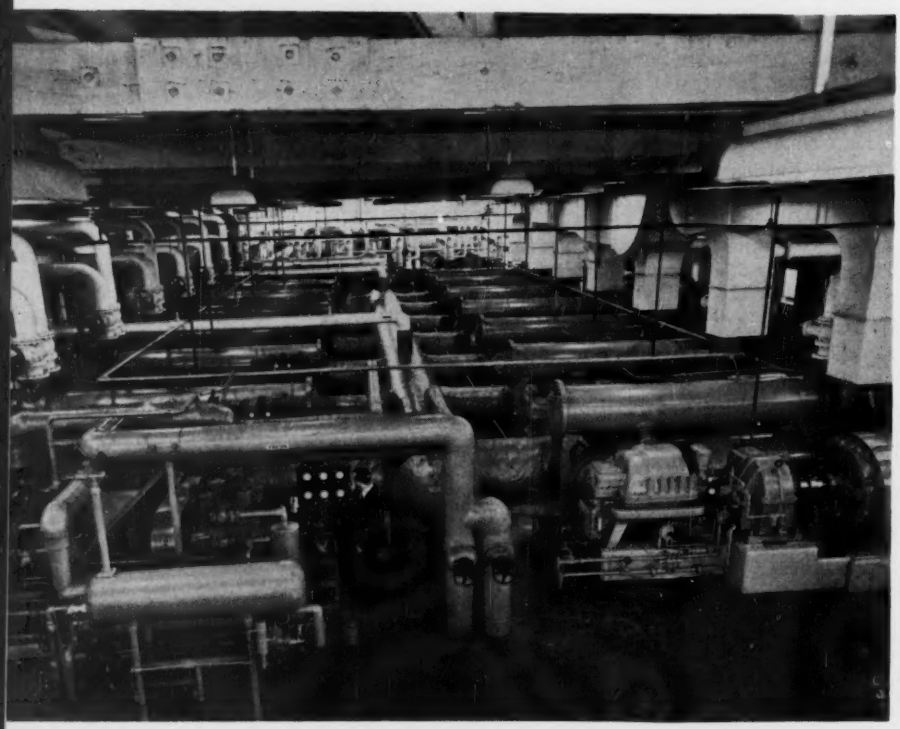
Some localities have laws such as to prevent adoption per se and RISAC then tries to get as good a Code as possible. Often, however, those locally interested in such a Code try to improve on it and without full knowledge of the background have invariably added clauses which cause other useful requirements to be countermanded. In addition, they have included licensing clauses which, if necessary, should be a separate document. It is believed that both the consumer and the public are protected by having every refrigeration and air conditioning installation conform to this ASA B9.1 Code. If policing of installations is necessary, in order to insure compliance, it could best be provided by having the installer obtain a permit from an authorized Government agency, and have the installation inspected by the same agency. Trying to provide enforcement through the licensing of installers and service men does not insure compliance with the Code. Such provisions are sought generally by those who seek restrictions for their own protection.

On these grounds, individual members of ASRE and their friends can help in their municipalities by opposing any ordinance or law that requires the licensing of refrigeration contractors, distributors, or installation and service men. They should recommend, instead, legislation limited to implementing the ASA B9 Code in its entirety, with no alterations.



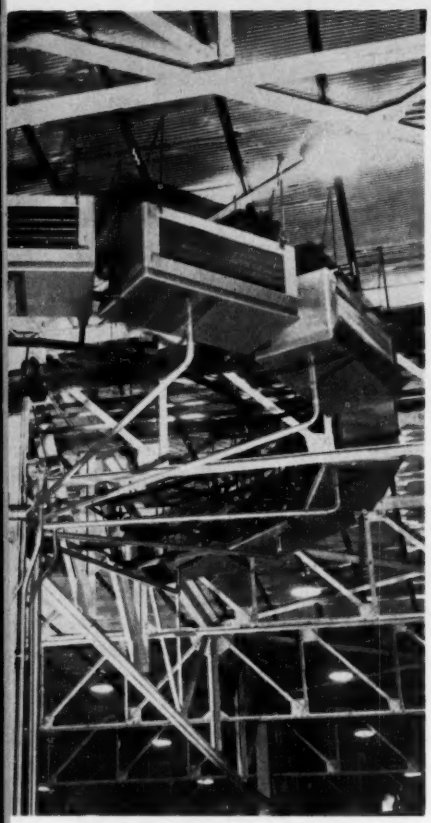
This twelve-unit ring *of blower coils is moun the country's largest warehouse — the Alford*

Fourteen centrifugal compressors, *each rated 1500 hp, provide refrigeration to simulate extremely low temperatures at high altitudes for wind tunnels of National Advisory Committee for Aeronautics' Lewis Flight Propulsion Laboratory, Cleveland.*



Others have written into their proposed Codes design and engineering requirements which tend to produce an application manual; if it is not truly a safety provision, it does not belong in a safety code. The means of attaining safety results should be left to engineers and designers who must work within the bounds of the safety code. Incidentally, in many places this includes other accepted codes and regulations by reference.

A good code should be dynamic and kept up-to-date. ASA requires that a standard be reviewed every five years and be re-affirmed or revised. Thus, the members of ASRE have acted upon, and approved, the B9.1-1953 Code. This edition includes revisions brought about by questions



ted in a freezer to provide refrigeration for Refrigerated Warehouses, in Dallas, Texas.

raised in some 60 cases in three years, and submitted to the Interpretations Subcommittee. This subcommittee has reviewed these inquiries and has recommended changes which have been approved by the B9 Sectional Committee.

Is there understanding by the Refrigeration Industry concerning the benefits of acceptable standards? When we speak of standards, we must consider the two types.

The Trade Association Standard covers what is considered good practice in the industry. That is, it does not dictate *how*, but *what* should be included as standard equipment, such as standard capacities, rating, and testing, design construction and safety devices, design operating conditions, air or water quantities and velocities, plus other items of the nature depending upon the particular equipment. Thus, ARI Standards have, for their purpose and scope, a description of what the industry voluntarily agrees is the minimum equipment and performance which will constitute a unit or system. A customer is furnished with a check list which will allow him to be sure to receive the minimum in equipment and performance.

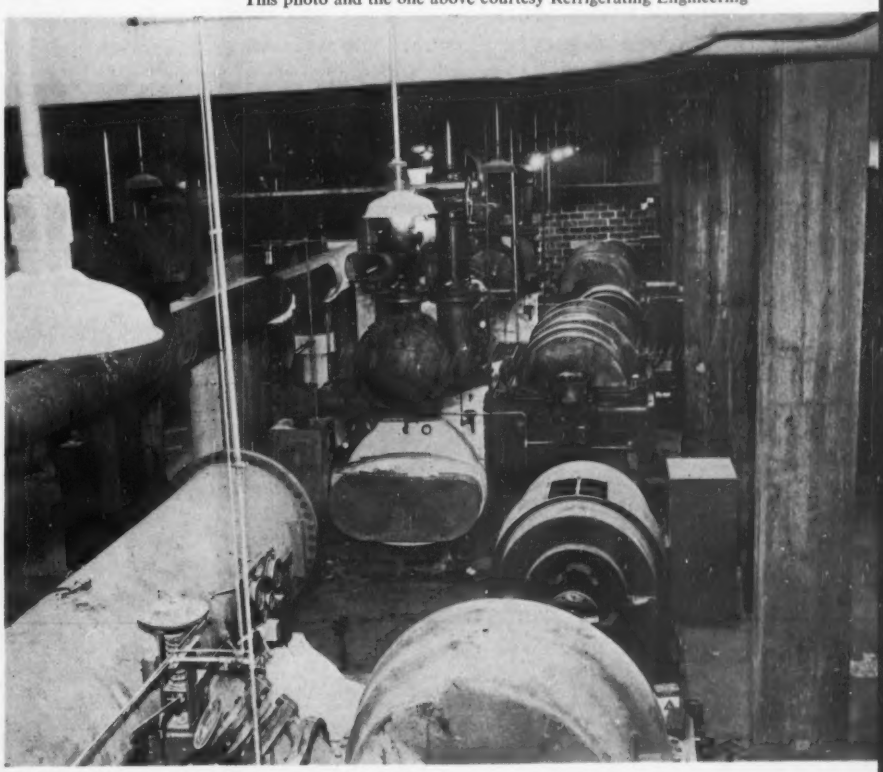
The technical society, such as ASRE, provides the necessary Technical Standards to which Trade Association Standards refer for such items as standard or reference capacities (not application capacities), design construction requirements as they apply to safety, the methods, instruments, and accuracy by which testing is accomplished to provide the ratings or performance. In addition, Technical Standards define and list the terms used in rating and the data to be taken.

Either of these types of standards strives to avoid specific reference to *how* a machine or unit is to be designed because in doing so, progress would be impeded. They do not limit a designer nor keep him from producing an unique or improved design. They state that a refrigerating machine or component should produce the minimum required result and have a safety margin consistent with accepted standards, and, in the case of Trade Association Equipment Standards, by voluntary agreement, the minimum a customer may expect.

Early in 1930's, when compressors using low-pressure refrigerants were first on the market, a chaotic state of ratings existed. In 1935, ASRE joined with NEMA, Refrigerating Machinery Association and Air Conditioning Manufacturers Association (afterwards ACRME), and ASHVE, to form the Joint Committee on Rating Commercial Refrigerating Equipment. This committee, being representative of the industry, was responsible for several ASRE Standards. Some of these are still in effect, while others have been revised and brought up-to-date, or since have been combined with other closely related standards. The Joint Committee served an important need and produced standards for which ASRE and the Refrigeration Industry are indebted. Messrs Glenn Muffly and Louis S. Morse, both past presidents of ASRE, are mentioned as chairman

One of the largest *air conditioning installations now being used in a commercial office building cools the modern Gateway Center at Pittsburgh, Pa.*

This photo and the one above courtesy Refrigerating Engineering



and secretary, respectively, of this committee.

These early standards have done much to put test and performance of refrigerating machines and components on an equable rating basis produced by flexible testing methods to which all can agree. In the case of compressors and condensing units, on several occasions, check tests have been made on the same compressor by different laboratories with remarkable agreement in results. Today, compressors or condensing units sold to conform to ASRE Standards 23-R and 14-41 can be depended upon to produce the standard rating as stipulated, and the public knows what it is getting. One should realize, however, that the ASRE Standard Rating groups are usually not an application point. For example, Group I in Standard 23-R specifies 65-degree suction gas temperature to the stop valve of a compressor when the suction pressure corresponds to −10 degrees F. Thus, to obtain 75-degree suction superheat, one must find ways to obtain this superheat usefully without losses in order to take advantage of the gain in availability afforded by this superheat. Any but the smallest compressors would no doubt run too hot for continuous operation. Nevertheless, the point can be established and the machine so rated as a comparative capacity.

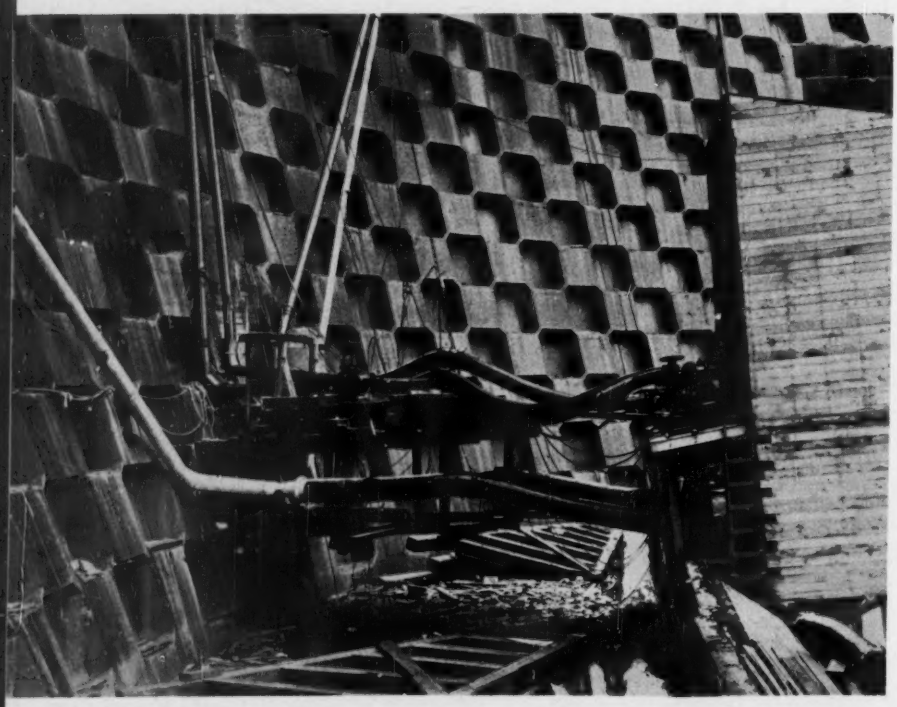
Appended is a list of ASRE Standards. They are used and referred to. Two on the list were approved by the Standards Committee and Council last June. The Standards Committee has reviewed the current list and is of the opinion that in general these standards are adequate. Standard 25-53, although quite recently revised, still requires that the question of ratings under frosted coil conditions be resolved; a simpler method is being sought. There is a concerted move among manufacturers of Forced Circulation Air Coolers to have a Trade Association Standard backed by ASRE Standard 25-53.

In addition to those listed ASRE Standards, the industry needs more. Already five additional standards have been authorized by ASRE Council. We in ASRE must cover the field with acceptable Technical Standards; however, we must be on guard that there is a real need for the proposed standard. This is a criterion of ASA and a good one. Already three of our standards have become American Standards, which gives them a substantial endorsement by interests outside the Refrigeration Industry. Standard 26-R, ASA B59.1-1950, although a Recommended Practice because of jurisdictional complication, is basically accepted by the Marine interests, much to the relief of manufacturers of shipboard refrigeration.

ASRE Standards have filled a real need in the Refrigeration Industry in the past. This need increases as ASRE and the Refrigeration Industry grow and new manufacturers enter the field, thus to insure equitable quality and performance of refrigeration equipment for the purchasing public.

Refrigeration system *used during construction of Ross Dam. This shows connections from brine pumps to brine condenser water risers. Brine lines are frosted.*

Refrigerating Engineering



LIST OF CURRENT ASRE STANDARDS

Circular Number	Description
14-41	ASRE Standard Methods of Rating and Testing Mechanical Condensing Units.
15-R (ASA B9.1-1953)	American Standard Safety Code for Mechanical Refrigeration.
16-53	ASRE Standard Methods of Rating and Testing Air Conditioners.
17-R (ASA B60.1-1950)	ASRE Standard Method of Rating and Testing Refrigerant Expansion Valves.
18	ASRE Standard Methods of Rating and Testing Self-Contained Mechanically Refrigerated Drinking Water Coolers.
20	ASRE Standard Methods of Rating and Testing Evaporative Condensers.
22	ASRE Standard Methods of Rating and Testing Water-Cooled Refrigerant Condensers.
23-R	ASRE Standard Methods of Rating and Testing Refrigerant Compressors.
24	ASRE Standard Methods of Rating and Testing Water and Brime Coolers.
25-53	ASRE Standard Methods of Rating and Testing Forced Circulation and Natural Convection Air Coolers for Refrigeration. (Revised — approved by ASRE Standards Committee 6/29/53).
26-R (ASA B59.1-1950)	American Standard Recommended Practice for Mechanical Refrigeration Installations on Shipboard.
28-53	ASRE Standard on Capillary Tubes and
11-53 (ASA B38)	Proposed Standard on Home Freezers (Approved by ASRE Council 6/28/53).

Refrigerating Engineering

Albuquerque, New Mexico, *ice rink — a type of refrigeration unit covered by B9 safety code.*

Safety in *REFRIGERATION*

by J. R. CHAMBERLAIN

THE recently published 1953 edition of the American Standard Safety Code for Mechanical Refrigeration, B9.1-1953, recognizes improvements in refrigeration since 1950, the date of the previous edition. The sections on piping and pressure vessels, for example, have been completely revised for maximum safety because of newly acquired knowledge in the field. Specifications for pressure relief devices have been expanded; and new refrigerants, such as Carrene No. 7 have been recognized as giving safe, reliable service.

Commonly called the "B9 Code," this document provides the safety standards for application in the design, installation, and operation of mechanical refrigeration equipment.

It applies to refrigeration equipment used in residences of more than two families as well as in institutions, places of public assembly, commercial and industrial buildings, and mixed occupancies (buildings in which various parts are used for different purposes).

Among the important accomplishments of the Code are the following: It puts refrigerants in three major classes, namely, safe, toxic, and flammable; it limits the quantities of dangerous refrigerants; it provides relief devices so vessels or pipes will not rupture under pressure.

This Code was developed by Sectional Committee B9, sponsored by the American Society of Refrigerating Engineers under the procedure of the American Standards Association. The committee membership includes representatives of national groups concerned with the manufacture of mechanical refrigeration equipment and refrigerants, government, safety, and insurance groups, and representatives of users. The history of the Code indicates clearly that, as an industry grows, its interest in standards increases. The first B9 Code was issued in 1930; some 20 or 30 cities adopted this 1930 edition. When subsequent editions were issued, in 1933, 1939, and 1950, the industry was expanding rapidly and developing many new applications. Today, more than 850 cities have adopted this Code. In fact, the B9 Code has now gained virtually universal acceptance among cities that have refrigeration requirements in their building codes, with the exception of New York and Chicago. A bill is now pending in the New York City Council that would enact the B9 Code, and its passage is expected soon.

The widespread acceptance of this standard means that manufacturers of refrigeration and air conditioning equipment can mass-produce their products without the necessity of making costly alterations to comply with varying local requirements. Today, virtually all equipment is manufactured in accordance with the B9 standards. At the consumer level, this means that the buyer is assured of a product that provides adequate safety at minimum cost.

In a concerted attempt to keep this standard abreast of latest developments — an objective strongly urged by ASA — the B9 drafting committee held twelve meetings since 1950, and dealt with over 50 suggested changes to the Code.

The refrigeration manufacturers have found that city and state codes so vitally affect their interests that they have established a separate organization to work in this field. This organization is called the Refrigeration Industry Safety Advisory Committee. (See page 114 for a description of RISAC and its operations.)

TRANSFORMER STANDARD PROMISES SAVINGS

by H. M. JALONACK

BY using standardized designs, it is expected that the new American Standard Requirements for Transformers will give users more than $8,000,000 in savings in the next three years. Steel mills, automobile manufacturers, electrical utilities, railroads, public works, and hundreds of industrial companies will benefit from this deveopment.

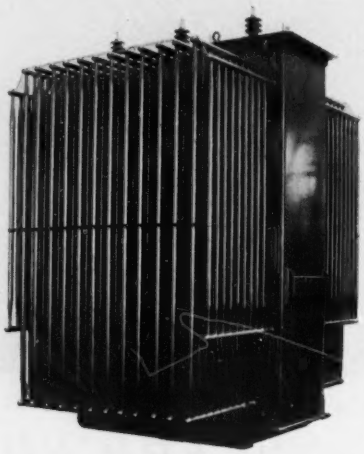
These savings are based on manufacturers' estimates that more than $100,000,000 in transformers in ratings covered by the standard will be sold during that period. Through quantity production, standardized transformers can be built faster, at costs which will be at least 8 percent lower than transformers of identical ratings, built to individual specifications.

This new American Standard was completed by the Sectional Committee on Transformers, following its publication in March 1952 as a Proposed American Standard, recommended for use. The proposed standard represented a number of intensive studies by a subcommittee consisting of utility and manufacturing representatives. The development of the standard was further aided by many advisers, representing the broad scope of American users of power transformers.

The ratings covered are: 501 through 10,000 kva, 3 phase; 501 through 5,000 kva, 1 phase; 67,000 volts and below. These conventional transformers are generally used for step-down purposes.

This Proposed American Standard was widely accepted and proved to represent the major needs of the users in this group of ratings.

The American Standard Requirements for Transformers, C57.12a-1954, now available, incorporates a number of improvements which have developed during the interim period in which the Proposed American Standard has been in effect. Some



useful additions have been made and it appears that the new standard will meet even more closely the needs of users. As a matter of fact, both the users and manufacturers have been anxiously awaiting the final approvals that were necessary before this could be made available as an American Standard.

Without attempting to cover minor changes in wording or typographical improvements, this article summarizes the major differences between the Proposed American Standard and the American Standard.

Item 1. A 2000 kva rating has been included for 3-phase transformers having low voltage rating of 2400 or 2520 or 4160Y or 4360Y. It was found that such a rating was being widely used. It was found, also, that in these particular low voltage classes the jump from 1500 kva to 2500 kva formerly proposed would result in an interrupting capacity requirement on low-voltage breakers that would materially raise the cost of a substation installation.

Item 2. Although provision had been made in the Proposed Standard for a range of temperatures of top oil through which the transformer would remain sealed, there was no provision for minimum and maximum temperatures for which the transformer should be suitable. In order to provide for this, the following was added: —

"The transformer shall be suitable for operation over a range of top-liquid temperature from minus 20C* to plus 95C*, provided the liquid level has been properly adjusted to the indicated 25C level.

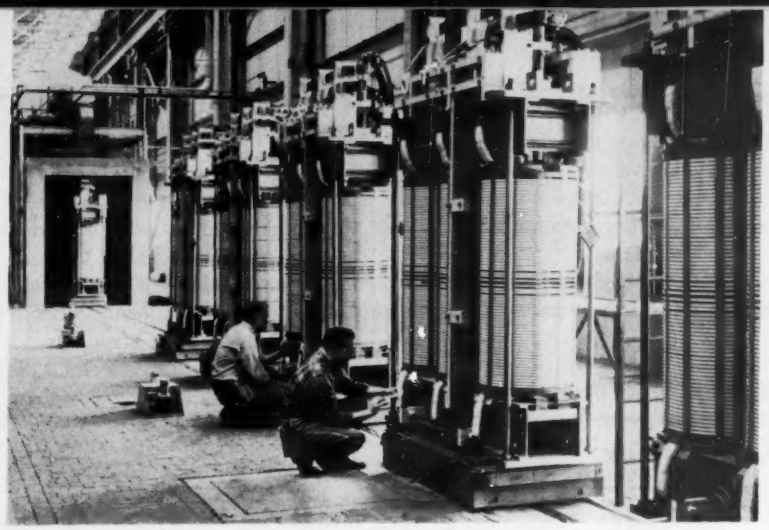
"*Operation at these temperatures may cause the mechanical pressure bleeder device (see paragraph 3.1) to function to relieve excessive positive or negative pressures."

Item 3. In the Proposed American Standard a 3-phase transformer shown in Part I had three low-voltage bushings even though the transformer was wye-connected on the low-voltage side. Part II did offer an option on a neutral bushing if required. Further investigation showed that in a very high percentage of the cases, the neutral bushing was required on wye-connected low-voltage windings and that by placing this neutral bushing in Part II it might be overlooked. In the new standard the 3-phase transformers of this type are equipped with four low-voltage bushings all of the same voltage class.

Item 4. Probably one of the most important additions also has to do with bushings, namely the establishment of mechanical dimensions for high-voltage bushings in the 25 kv-69 kv classes. These are shown in Figures 1 and 2. Figure 1 shows mechanical characteristics of bushings applicable to transformers only, and Figure 2 shows the mechanical characteristics of bushings suitable both for transformers and circuit breakers.

Although electrical characteristics had not been fully determined at the time of approval of this standard, it appears that the electrical character-

Mr Jalonack is Manager of Marketing Research and Product Planning, Distribution Transformer Department, General Electric Company, Pittsfield, Massachusetts; chairman of the Subcommittee on Power and Distribution Transformers, Sectional Committee C57.



Assembly line *of power transformers typical of those covered by ASA C57.12-1954.*

istics for these same bushings will be approved soon. This particular mechanical and electrical standardization has been sought for many years and, even though modifications in manufacture and usage will be needed by almost everyone, the end result will be a major reduction in the number of types that have to be manufactured or carried in stock either by manufacturers or users. It is interesting, too, because it has been stated many times that this particular standardization was one impossible of accomplishment.

Item 5. In the Proposed Standard the 25C liquid level was stated as being "the distance from the liquid level to a convenient reference point." This is made more specific in the new standard by establishing this dimension as "the distance from the liquid level to highest point of the handhole or manhole flange surface."

Item 6. In connection with the tap changer position, many operators have suggested that there be some uniformity in the way the tap changer positions are numbered or lettered. To accomplish this the following has been established:—

"Tap changer position indicating plate shall be marked with arabic numerals or letters in sequence. The number "1" or letter "A" shall be assigned to the voltage rating providing the maximum ratio of transformation."

Item 7. A new item is the specification that tanks shall be designed for vacuum filling in the field on all transformers with high-voltage insulation class of 69 kv (350 kv BIL) and on all transformers rated 10,000 kva, any insulation class.

Item 8. In Part II, the fan-cooled ratings have been modified to provide a fan-cooled rating for the 2,000 kva size of 2300 kva. In addition, the fan-cooled rating of a 2500 kva unit has been raised from the previous figure of 2875 kva to a rating of 3125 kva.

Item 9. In Part II the table showing the range of other high-voltage ratings has been slightly modified. A 25,700 minimum limit for rated voltage in the 34.5 kv class has been established in order to fit the needs of those who require this voltage instead of the 26,400 volts previously listed.

Item 10. In Part II there are considerable classifications made of the available methods of neutral termination of wye-connected windings. This information was not spelled out in detail in the original report.

Item 11. Several additions have been made in terminal board arrangements in Part II to provide for those users who are unable to utilize standard phase displacements.

Item 12. In the original standard, alternate ratings for bushings were included through the 69-kv class, including three types of bushings identified as "oversize." Due to the mechanical standardization of bushings which has been accomplished, the use of some of the higher voltage bushings would result in a major change in the transformer cover construction. The alternates have, therefore, been eliminated in such cases but there still remains a table that provides alternate ratings for voltages of 1.2 kv, 5.0 kv, 8.7 kv, and 15.0 kv. It is contemplated that the new electrical characteristics will eliminate in all but the most infrequent cases necessity of specifying a higher voltage bushing than would be normally supplied.

Item 13. The original standard did not contain detailed information on nameplates. The new standard contains such information, developed by NEMA, as an "Appendix."

The ASA C57 Subcommittee on Power and Distribution Transformer Standards is now developing standards for the same group of ratings but with tap changers for operating under excitation or loaded conditions.

The Library of Standards

Thousands of questions about standards in this country and in other countries are answered every year by the library of American Standards Association. A new booklet, *The Library of Standards,* tells (as indicated in its subtitle) "What It Is, What It Contains, What It Can Do for You."

Pocket-size, this booklet describes ASA's unique library and the services it offers, including access to 60,000 standards, specifications, and related documents, which are included in the library's file of technical material.

ASA exchanges standards with 40 countries. Titles of standards issued by other countries are usually translated as they are received and listed in the MAGAZINE OF STANDARDS (see page 128).

The library also maintains a file of specifications issued by the U.S. Government including standards of Federal Supply Service (the Federal Specifications Board) and the Department of Defense, and including Simplified Practice Recommendations, as well as some documents of state regulatory bodies concerned with safety.

ASA sustains the library for the use of its members and also as a public reference service.

Free copies of *The Library of Standards* may be obtained by writing or calling the American Standards Association, 70 East 45 Street, New York 17, N. Y.

International Meetings Planned

IN ORDER to keep in touch with the work going on in technical committees of the International Organization for Standardization, the American Standards Association now has observer status on all committees in which it is not participating. This relationship with ISO work was authorized by the Standards Council at its last meeting.

ISO technical committee meetings and meetings of subcommittees are already scheduled through June and plans are under way for meetings later in the year. Those scheduled are:

CALENDAR OF MEETINGS

SUBJECT	ISO/TC No.	PLACE	DATE OF MEETINGS
			April
Welding/Filler materials and electrodes	44/SC 3	Paris	12-14
Drawings (general principles)	10/SC 1	The Hague	21-24
Paper/Nomenclature-Terminology-Substances	6S/C 1	Lisbon	26-30
Welding/Arc welding equipment	44/SC 4	London	26-28
Welding/Resistance welding equipment	44/SC 6	London	29-30
			May
Welding/Definitions of weld-positions	44/SC 1	London	3-4
Pipe and fittings/Fittings (other than cast iron)	5/SC 5	Brussels	6-8
Terminal markings on instrument transformers	16/38	Paris	7-8
Terminal markings	IEC/TC 16	Paris	10-11
Gas cylinders/Valve outlets	58/SC 2	Florence	13-15
Products in asbestos cement	77	Zurich	13-15
			June
Pipe and fittings/Cast list tubes and other steel pipes	5/SC 1	Dusseldorf	1-4
Textiles/Colorfastness tests	38/SC 1	Scarborough (England)	4, 5, 7
Textiles/Shrinkage of fabrics in washing	38/SC 2	Scarborough (England)	12
Documentation	46	Brussels	14-16
Documentation/Documentary reproduction	46/SC 1	Brussels	10-12
Pallets for unit load method of materials handling	51	London	21-23
			July
Preferred Numbers	19	Paris	1-3
IEC		Philadelphia, Pa.	Sept 1-16
ISO Council		Geneva	Sept 27-30
ISO General Assembly and Council		Stockholm	June 6-18 1955

MEETINGS PLANNED

(Final dates not yet decided)

Lac	50		Late 1954
Safety colors	80	The Hague	July or Sept
Plastics	61	England	Sept
Aromatic hydrocarbons	78		Autumn
Solid mineral fuels	27		Sept or Oct
Mica	56		Sept or Oct
Terminology	37	Vienna	Oct 13-16
Essential oils	54	London	Oct 18-20
Small tools	29	Paris	Oct 25-28
Laboratory glassware and related apparatus	48		Oct 25-29
Hermetically sealed metal food containers	52	Lisbon	Nov 3-5
Automobiles/Agricultural tractors	22 T	Lisbon	Nov 10-13
Agricultural Machines	23	Lisbon	Nov 15-17
Cast iron	25		Nov or Dec
Gas cylinders	58		Late 1954

Plastics Committee to Meet in London

AT the invitation of the British Standards Institution, this year's meeting of ISO Technical Committee 61 on Plastics will take place in London during the week of October 4. The American Standards Association serves as secretariat for this committee, on which the national standards organizations of 12 countries are members.

The United States delegation to TC 61, headed by Robert Burns of Bell Telephone Laboratories, consists of experts in various fields of plastics, selected to represent the recognized plastics groups in this country, namely, the Society for the Plastics Industry, the Plastics Committee of the Manufacturing Chemists Association, the Society of Plastics Engineers, and the Plastics Committee of the American Society for Testing Materials.

The October meeting of this committee will be its fourth. Previous meetings have been held in New York, 1951; Turin, Italy, 1952; and Stockholm, Sweden, 1953. A report of the Stockholm meeting appears in *Modern Plastics*, October, 1953, and STANDARDIZATION, December, 1953.

• • **The British Standards Institution** is planning an exhibit calling attention to place of British Standards in aiding production and in helping British exports. The exhibit is to be displayed during a "Production for Plenty" Exhibition and Conference at Olympia, London, July 4-14. The Conference is under the sponsorship of the Institution of Production Engineers.

Three of the ten sessions of the Conference have been allocated to the BSI. Papers will cover standards in planning and design, control, testing, and inspection procedures; sales and service, with special reference to the influence of British Standards on export from the point of view of conveying an assurance of quality and insuring suitability for use in the market concerned.

GOVERNMENT STANDARDS

GSA Regulation Paves Way for Broader Industry Participation in the Development of Federal Specifications and Standards

by S. P. Kaidanovsky

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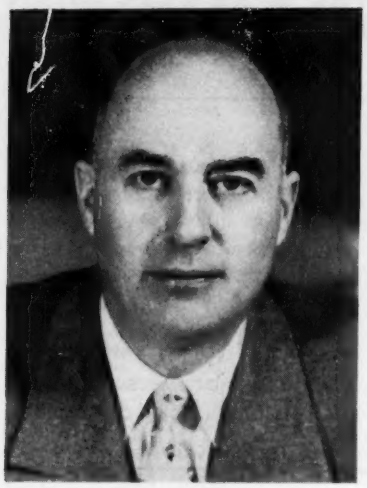

Edmund F. Mansure
General Services Administrator

In the development of purchase specifications and standards, the Federal Government, including the General Services Administration, has for many years utilized the vast wealth of vital information and technical data in the hands of individuals on the technical staffs of standardization bodies, technical societies, trade associations, industrial and business concerns, educational institutions, and scientific organizations.

During the course of drafting and revising specifications by government-sponsored meetings, government agencies have sought and obtained the cooperation and assistance of such organizations, in some cases by direct inquiry or discussion with technical representatives thereof, and in other cases by formation of a technical committee or business advisory group in which the representatives of such organizations participated.

Mr Kaidanovsky, Consulting Engineer, is former Chairman, Federal Interdepartmental Standards Council; technical consultant, Federal Specifications Board; and editor STANDARDS WORLD.

The utilization of such facilities and sources of information assisting the GSA in drafting of specifications and standards used in government procurement operations have been formalized recently by the issuance of an appropriate GSA regulation: —

GSA Administrative Order No. 153

Authority. The GSA Administrative Order No. 153 is issued pursuant to the authority of the Defense Production Act of 1950, as amended, and the Federal Property and Administrative Services Act of 1949, as amended.

Purpose. The order prescribes policies and procedures for the establishment and management of business advisory committees, technical conferences, and technical committees together with rules governing such activities.

Functions of Committees and Conferences

The principal functions of committees and conferences are as follows:

Business Advisory Committees. Such committees are to examine policy matters or consider broad industry problems.

Technical Conferences. Technical conferences are to advise or inform on some specialized technical problems for which the use of a business advisory committee would be impracticable. Technical conferences are to be used only where the nature of the subject matter is such as not to require repetitive meetings.

Technical Committees. Technical committees are to be established only where the problems to be considered are of a technical character, such as the preparation of a proposed or revised draft of a Federal Specification or a Federal Standard, requiring a minimum number of specialists to engage in detail drafting.

Selection of Participants in Committees and Conferences

Participants of business advisory committees, technical conferences, and technical committees are to be selected by the GSA from:

(a) Independent small, medium and large business enterprises of different geographical areas;

(b) Trade association members and nonmembers;

(c) Different segments of industry

Membership on business advisory committees is limited to persons who are actively engaged in the operation of business enterprises which are constituent units of the industry in which the committee is established.

In cases of technical conferences and technical committees in addition to participants selected from organizations enumerated under (a), (b) and (c), invitations may be extended to technically qualified representatives of trade associations, technical societies, educational institutions, and scientific organizations.

Advisory Character of Committees and Conferences

The function of committees and conferences are advisory in character, that is, to render advice and make recommendations concerning the technical problems under consideration.

Solicitation of Industry Views

The regulation prescribes that prior to taking any action by a technical conference or a committee, following completion of an assignment, industry comments shall be solicited. Adequate time shall be allowed for submission of such comments and for consideration to be given to the expression of industry views.

Benefits from Industry and Technical Societies Participation

The utilization of experience and data at the disposal of people and firms actively engaged in developing and producing articles of the type bought by the Federal Government, of technical societies, trade associations, and standardizing bodies, such as ASA and ASTM, will contribute immensely to the development of specifications and standards reflecting up-to-date industry practice.

The granting of the privilege of direct participation of industry and technical societies in the development of Federal Specifications and Standards, paves the way for better cooperation of Government and industry, resulting in benefits to both.

GOVERNMENT STANDARDS

9 SAVINGS THROUGH FEDERAL STANDARDS

by S. P. Kaidanovsky

Willis S. MacLeod
Director, Standards Division
Federal Supply Service, GSA

What Is a Federal Standard?

A Federal Standard establishes a number of items of a particular commodity which have been adopted as standard for use by Federal agencies. Such standards are promulgated by the General Services Administration and are mandatory on all Federal agencies. These items have been adopted for the purpose of achieving the highest degree of uniformity and standardization of commodities in Federal Supply Operations.

Authority

Federal Standards are issued by the General Services Administration pursuant to the Federal Property and Administrative Services Act of 1949, as amended. As stated above, the application of Federal Standards to the purchase of commodities referred to in the standards is mandatory on all Federal agencies.

Reference to Applicable Federal Specifications

Each Federal Standard refers to the applicable Federal Specification where the quality, inspection, and testing requirements are given. For example, Fed Std No. 45 Pencils, Lead (General Writing) refers to the Federal Specification SS-P-166 issue in effect for that commodity.

Revision of Federal Standards

When a Federal agency considers that a Federal Standard does not pro-

The Federal Standard *on lead pencils refers to Federal Specification SS-P-66.*

Fed. Std. No. 45
November 6, 1953
(SS–P–166, Issue in Effect)

FEDERAL STANDARD

PENCILS, LEAD (GENERAL WRITING)

Authority.—*This standard is issued pursuant to the Federal Property and Administrative Services Act of 1949, as amended, and its application to the purchase of commodities referred to herein is mandatory on all Federal agencies.*

S1. Purpose and scope.—This standard establishes the three items of general writing lead pencils adopted as standard for general office use by Federal agencies. These items have been adopted in an effort to achieve the highest degree of uniformity and standardization of this commodity in Federal supply operations.

S2. Application.—Purchases of general writing lead pencils under Federal Specification SS–P–166, of the issue in effect on date of invitation for bids, shall be limited to items which have characteristics conforming to the standard items specified herein.

S3. Standard characteristics and item identification.—The standard items listed below with their applicable Federal Standard Stock Catalog numbers, and Federal Stock numbers in parenthesis, shall conform to the following characteristics:

Pencil, wood cased (round or hexagon), black lead, general writing, with rubber tip; unit of issue, one dozen; package, twelve dozen:

	Degree of Hardness
FSSC 53–P–30000 (7510–233–2070)	No. 1, Soft Lead
FSSC 53–P–30004 (7510–240–8697)	No. 2, Medium Soft Lead
FSSC 53–P–30008 (7510–233–2068)	No. 3, Medium Hard Lead

S4. Changes.—When a Federal agency considers that this standard does not provide for its essential needs, written request for changing or adding to the standard, supported by adequate justification, shall be sent to the Administration. This justification will explain wherein the standard does not provide for essential needs. The request should be sent in duplicate to the General Services Administration, Federal Supply Service, Standards Division, Washington 25, D. C. If the request is approved, the Administration will initiate a revision of the standard.

S5. Conflict with referenced specifications.—Where the requirements specified in this standard conflict with any requirement in a referenced specification, the requirements of the standard shall apply. Nature of conflict between the standard and the referenced specification shall be submitted in duplicate to the General Services Administration, Federal Supply Service, Standards Division, Washington 25, D. C.

Single copies of this standard are available without charge at the GSA Regional Offices in Boston, New York, Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, Seattle, and Washington, D. C. Additional copies may be purchased for 5 cents each from the General Services Administration Business Service Center, Region 3, Seventh and D Streets SW., Washington 25, D. C.

vide its essential needs, a written request for its revision, supported by adequate justification, may be submitted to the General Services Administration, Federal Supply Service, Standards Division.

Item Identification

Each standard item referred to in a Federal Standard is identified by the applicable Federal Standard Stock Catalog (FSSC) number of the Federal Supply Service, General Services Administration. Items already identified under the Federal Supply Catalog System, are listed by the applicable Federal Standard Stock Catalog (FSSC) number, with the Federal Stock number in parenthesis. For example: Pencil, Wood Cases (Round and Hexagon), Black Lead, General Writing, with Rubber Tip, No. 1, Soft Lead, is identified as follows:

FSCC 53-P-30000 (7510-233-2070)

Federal Standards Issued to Date

The table in the next column lists the 33 Federal Standards issued thus far and the reduction in types they are bringing about.

Cutback in the Variety of Common-Use Items, and Resulting Savings

All Federal agencies are cooperating with the General Services Administration in its efforts to cut down sizes, types, varieties, and grades of equipment to be purchased in the future.

The issuance of Federal Standards resulted in sharp cutback in the variety of 33 commodities which government agencies may buy. For example, up to now 25 types of bent wood chairs have been available, but only one type will now be purchased. Steel Clothing Locker types have been reduced from 136 to 10 and Steel General Office Desks have been cut back from 54 to 8. It is estimated that on office furniture alone $2,700,000 will be saved annually on the approximately $18,000,000 which the General Services Administration buys for all Federal agencies.

Up to now 172 different items of mimeograph paper have been available. As a result of standardization, only 17 items now will be purchased. A saving of about a million dollars a year will be made on this item alone. The contemplated standardization of office machines and other office equipment, now purchased by the Federal Government for about $53,000,000 a year, will cut this cost by about $5,000,000 dollars a year.

Where Federal Standards May Be Obtained

Single copies of Federal Standards are available without charge at the Business Service Centers, General Services Administration Regional Offices in Boston, New York, Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, Seattle and Washington, D. C.

Additional copies may be purchased for 5 cents each from the General Services Administration, Business Service Center, Region 3, Seventh and D Streets, S. W., Washington 25, D. C.

Benefits from the Standardization Program

As a result of the standardization program, Federal specifications will be simplified, many will be eliminated completely, and industry itself will find it easier to bid on government business. The small businessman particularly will find this program helpful, because with simplified designs and fewer types called for, he can bid on more and larger orders.

The granting of the privilege of direct participation of industry and technical societies in the development of Federal specifications and standards paves the way for better cooperation of industry and government, resulting in benefits to both.

Reduction in types *brought about by 33 Federal Standards issued to date.*

Fed Std No.	*Commodity*	*No. of Types Before*	*After*	*Eliminated*	*Percent Reduced*
32	Baskets, Wastepaper, Metal (Office and Lobby)	40	7	33	83
34	Basket, Wastepaper, Wood, Executive Office	2	1	1	50
35	Bookcases, Wood Executive Office	8	2	6	75
36	Bookracks, Wood, Office	2	2	0	
20	Cabinets, Metal, Storage	48	10	38	79
37	Cabinet, Telephone, Wood, Executive Office	4	1	3	75
30	Chair, Bent Wood	25	1	24	96
47	Chair, Easy, Executive Office	6	1	5	83
38	Chairs, Wood, Executive Office	18	4	14	78
18	Clips, Paper	10	4	6	60
17	Clips, Paper (Binder)	10	5	5	50
31	Costumers, Metal, General Office	8	2	6	75
39	Costumers, Wood, Executive Office	2	1	1	50
22	Costumers, Wood, General Office	10	2	8	80
40	Davenport, Executive Office	8	1	7	87
16	Desks, Steel, General Office	54	8	46	85
41	Desks, Wood, Executive Office	28	5	23	82
23	Lockers, Clothing, Steel	136	10	126	93
24	Mirrors, Plate Glass, Framed	28	3	25	89
19	Pads, Desk	18	2	16	89
8	Paper, Blotting	24	5	19	79
9	Paper, Computing-Machine	22	7	15	68
46	Paper, Mimeograph	172	17	155	90
6	Paper, Toilet Tissue	13	3	10	77
45	Pencils, Lead (General Writing)	11	3	8	73
25	Settee, Wood, General Office	5	2	3	60
26	Stands, Dictionary, Wood	6	4	2	33
27	Stands, Typewriter, Wood	6	4	2	33
7	Towels, Paper	18	7	11	61
43	Tray, Desk, Wood, Executive Office	2	1	1	50
28	Tray, Desk, Wood, General Office	6	2	4	66
44	Wardrobe, Wood, Executive Office	8	1	7	88
29	Wardrobes, Wood, General Office	6	4	2	33

Data on Furniture Available

Section of Federal Supply Catalog issued

THE Department of Defense Section of the Federal Supply Catalog on Furniture has recently been issued. It consists of the following:

Group 71, Part I, Introduction, Table of Abbreviations, Alphabetical Index of Names, Federal Stock Number Index.

Group 71, Part II, Classes 7105, 7110, 7115, 7120, 7125, and 7195.

Class 7105. Household Furniture *(Includes:* Mattresses, Bedsprings [except Hospital Type]; Folding Chairs; Camp Furniture. *Excludes:* Hospital Beds)

Class 7110. Office Furniture *(Includes:* Filing Cabinets; Safes; Visible Record Equipment. *Excludes:* Dental X-ray Film Protective Safes)

Class 7115. Commercial and Professional Furniture *(Includes:* Laboratory Furniture; Auditorium and Theater Furniture; Library Furniture; Post Office Furniture; School Furniture; Cashier Stands and Manicure Tables)

Class 7120. Conveyance Furniture *(Includes:* Aircraft, Marine, and Vehicular Furniture)

Class 7125. Cabinets, Lockers, Bins and Shelving *(Includes:* Kitchen Cabinets; Sectional Shelving. *Excludes:* Foot Lockers; Filing Cabinets)

Class 7195. Miscellaneous Furniture and Fixtures *(Includes:* Blackboards; Mirrors; Stone Clay and Concrete Furniture; Smoking Stands. *Excludes:* Ash Trays)

The following specifications are referenced in the Catalog:

A—Department of the Army

N—Department of the Navy

AF—Department of the Air Force

USMC—U.S. Marine Corps

MED—Army Medical Service

QM—Quartermaster Corps

BUSHIPS—Bureau of Ships

BUDOCKS—Bureau of Yards and Docks

JAN—Joint Army-Navy

MIL—Military

GSA—General Services Administration

FED—Federal

This Catalog is now available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C. Price 40 cents.

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C. S. Thomas Addresses ASTM

C. S. THOMAS, Assistant Secretary of Defense for Supply and Logistics, was the principal speaker at the Washington Dinner Meeting of the American Society for Testing Materials, February 3.

Mr Thomas described the "new look" of the Department of Defense and presented an interesting picture of the responsibilities of his office. These are: "developing policies and procedures for the Department of Defense in the broad fields of procurement, production, distribution, transportation, storage, cataloging, requirements, and mobilization planning." He paid tribute to the great contribution the ASTM has made in "standardizing the component parts of modern-day equipment and production."

Mr Thomas also stated that "standard equipment, standard techniques of measurement, and standards of raw material quality play an ever increasing part in the industrial process."

The Assistant Secretary of Defense outlined some of the specific programs as:

1. Standardization of fiscal and accounting procedures among four services.

2. Development of an effective industrial mobilization plan.

3. Establishment of an industrial fund, under which each activity is given a capital fund to finance the cost of its operation.

4. Completion of a standard catalog for all the services.

5. A standardization program ("most important of all," according to the Assistant Secretary of Defense) which which will result in fewer items, fewer parts, and greatly reduced inventory.

6. Disposition of obsolete and excess material.

In the words of Mr Thomas "There are many other things the Department of Defense is doing to establish modern policies, procedures, and techniques for coordinating and standardizing the operations of all four of the services and all of these will make for a better defense program and for more defense for the taxpayers' dollar."

*

Since Mr Thomas' speech before the ASTM, he has been nominated by President Eisenhower to be Secretary of the Navy.

Recent Rulings on Unusual Accidents

The following interpretations have been handed down by the Committee of Judges of ASA Sectional Committee Z16 on accident statistics. They serve as a guide to companies who want to know how to count injuries due to unusual accidents in their safety record.

Safety engineers are invited to obtain interpretations of the American Standard Method of Compiling Industrial Injury Rates, Z16.1-1945, by sending the facts on doubtful cases to ASA.

Reprints of all the published decisions can be obtained from ASA.

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Case 232

On March 12, two employees were carrying a piece of flat iron ½ in. x 3 in. x 16 ft. in a steam electric generating station under construction. One of the employees caught his toe on a piece of pipe embedded in the concrete floor. This caused him to lose his balance momentarily. He stated that upon regaining an upright position he felt a burning pain in his left groin. Immediately after the material had been placed in the position to which the two employees had been carrying it, he said to his fellow worker that he believed he had injured himself. A short time later he reported to the Medical Center, where he was examined. It was found that he had experienced a small incisional scar hernia through the scar of a hernia that had been repaired in 1950. The individual was not employed by this organization at the time he received the 1950 injury.

The medical officer on this project expressed the opinion that the hernia disclosed in this case was the result of inadequate surgery when the 1950 hernia was repaired. He further pointed out that when a hernia is properly repaired there is very little likelihood of a hernia occurring in the same place, as the tissues become stronger after proper repair.

The committee decided that this injury should be included in the rates. Attention was called to paragraph 2.3 which states that, if an injury occurring in the course of employment aggravates a pre-existing physical condition or weakness, the resulting injury shall be considered an industrial injury.

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Case 233

When an electrical maintenance employee was moving a step ladder from one location to another in a power house, a corner of the ladder came in contact with a light reflector, causing a cloud of coal dust to fall on the right side of his head and his right shoulder. After the job was completed, he washed his ear thoroughly, but in spite of this, four days later he reported to the first aid station because of pain in his ear. He was referred to a doctor who found the ear canal was filled with a purulent type of discharge in which were infiltrated many dark particles which were not identified.

The following morning, while the employee was waiting for transportation to work, he became very dizzy and nauseated. He was taken home and placed in bed. The employee did not again report for work for over two weeks. Medical testimony indicated that the infection of the ear had caused perforation of the tympanic membrane, and infection of the internal ear. This caused the dizziness and nausea, and the resulting loss of time.

While the committee agreed that it was not possible for the members to determine the accuracy of the implied connection between the accident and the injury, it also agreed that if this implied connection did exist, the disability was reportable.

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Case 234

On the night shift, at 2 A.M., two employees were splashed with molten plastic, resulting in second degree burns on the arms and hands. They both received first aid treatment and were taken home. They returned to the doctor's office at 11:45 A.M. the same morning.

On this visit, the doctor advised the employee in question that he could return to work on his next regularly scheduled work period, midnight to 8:00 A.M. He also advised the employee to keep his injured hand out of the water bath. This employee stated that his usual sleeping time was from noon to 6:00 P.M. and asked if he might have a couple of sleeping tablets, which he received. The employees left the office with the understanding that they would both be in to work that night. One employee did report for work, but the wife of the other called in about midnight to say that her husband was still asleep and would be absent from work for the entire period.

After the employee had left the doctor's office that morning he attended to several personal matters and, as a result, did not get to bed at his usual time. In fact, he did not get home until 6:00 P.M. nor to bed until 7:00 P.M., at which time he took one sleeping tablet. At 9:30 P.M. he took the second tablet; he did not wake up until 1:00 A.M., when he felt too drugged or sleepy to drive to work.

The company wished to know if the single shift of work lost by this employee because of oversleep should be considered a temporary total disability.

The committee decided that this injury should not be included in the rates. Some of the members commented that the doctor had specifically stated that the injury was not sufficient to warrant loss of time from work, and it did not appear that the sleeping tablets had been given as part of the treatment of this injury.

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Case 235

A company wrote: "One of our vice-presidents (in charge of buying) was visiting and the local manager arranged a dinner meeting and invited our key people to this meeting to hear this man give a talk.

"Our people were not required to attend and those on the hourly basis were not paid overtime for attending the meeting nor were their travel expenses paid.

"Four of these key mill employees live within a reasonable distance of each other and they went home and all four of them got into one of the fellow's car and headed for the restaurant. On their way to the restaurant they were struck by another car and all four of these men received some injuries. One of these men lost time from work for a few days because of the cuts and bruises he received.

"Our problem is whether or not these injuries should be charged against our records."

The committee decided that the injury to these four employees should not be included in the industrial injury rates on the basis that they were traveling between their homes and their place of employment at the time of the accident.

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Case 236

A maintenance man was helping another man line up some bolt holes in a metal spout that was about six feet long. As he was placing the spout in position he felt a sharp pain his groin and remarked to another man that he had a pain in his "belly." He stated that it felt as though someone had struck him with a knife, but he did not stop work. He continued working for the balance of the day. This incident occurred about 10:00 A.M. on Saturday.

The man finished out his day's work although he had some discomfort in his stomach. This bothered him over Sunday at home, although it wasn't bad enough for him to do anything about it. Monday morning he reported for work at 7 o'clock and worked until about 8:30 when he decided to report this to the First Aid Department. When he was sent to the doctor, the doctor discovered that he had a hernia.

The committee agreed that the hernia should not be included in the rates on the basis that it did not meet condition 2.2(c) of the standard.

Case 237

Approximately 13 years ago, an employee received a lost-time injury which required surgery to his left knee. This employee, a mechanic, recently twisted this same knee when attempting to climb out of a ditch. His knee pained him throughout the working day. Three days later he was sent to the office of the Medical Director, where he was treated.

The doctor stated that there was a dislocation of the left knee cartilage. The treatment to the injured consisted of diathermy to the knee and reduction, and application of Schanz dressing.

The doctor stated that he could return to light work. However, the employee, who has the reputation of being a good worker, did not return to work, stating that he did not want to go on light work. Accordingly, he reported to the Division that he was ill, the illness being the result of the previous injury. He remained at home for nine days "because of a knee injury" before he was able to return to regular work.

The Medical Director declared this to be a new injury rather than a recurrence or aggravation of an old injury. The reason given for this decision was that the operation had apparently been successful, as the employee had worked 13 years and had not been back for further treatment. This injury was therefore declared to be a lost-time injury. The department involved, contends, however, that it should not be a lost-time injury as the doctor ruled that the man could return to light work.

Upon further investigation, the surgeon's report included the following question: "Is the injury (independent of all other causes) such as to wholly disable and prevent him from attending to the duties of his occupation?" The surgeon had reported "Yes — perhaps a couple of days."

The committee remarked that it was difficult to make a decision in this case because of the conflicting information from the doctor. It finally decided that this case should be included in the rates in accordance with the total number of days lost.

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Case 238

It was necessary to excavate two holes in about three feet of water in the edge of a lake in Florida during the summer.

Three of the four men in the crew changed into swimming trunks before entering the water; the fourth wore long trousers, shirt, and hat. All men were required to wear shoes in the water. One of the four employees, whom we shall call employee X, had been employed by this company for three days but was a lifetime native of Florida. He was one of the men who elected to wear swimming trunks. The other employees slipped on additional clothing after a time to protect themselves from the sun, but employee X continued to work in trunks only, thus exposing himself to the sun. "It is generally felt that Florida natives know how much sunshine they can endure safely," the company reported.

On the following morning, employee X did not report for work nor did he call or give notice concerning his absence. The leaderman reported to his supervisor that he had noticed employee X getting rather red the previous day and had advised him of the fact. Consequently, it was assumed that sunburn was keeping the employee home. During the morning, the Safety Engineer and Prospect Foreman went to the home of employee X and found him in bed with a severe sunburn. He was persuaded to return to work and was employed the remainder of the day in a laboratory after being given first aid at the medical dispensary.

The next day employee X again failed to report to work. He was later contacted and found to still be suffering from sunburn. That afternoon he was brought in to the company medical dispensary and examined by a doctor who diagnosed his ailment to be severe sunburn. Employee lost time because of this injury.

The committee decided that this injury should be included in the rates as a temporary total disability on the basis that the sunburn arose out of and in the course of this employee's work.

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Case 239

No decision was given on this case because of lack of information.

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Case 240

A company wrote: "An employee is found to have silico-tuberculosis, and he is placed in a sanitarium for treatment. The term of treatment may take years or he may never return to work. In a few cases, a cure may be achieved and the employee return to work in a reasonably short time.

"If total permanent disability results, 6,000 days must be charged. Our question is: When is such a charge made? Should it be charged immediately when the condition is determined, with credit given if the employee returns? Or is a periodic charge made as long as the employee is disabled by the disease?"

The committee recognized that some silicosis cases are first detected by company examination when the employee has lost no time and that in many cases the employee continues to work at full capacity until death from natural causes or until retirement. They also realized that other cases may first be reported at the time an employee terminates his employment or at the time of a strike, or possibly several years after he has left the employment in question.

The committee also realizes the fact that it is frequently difficult to determine the total extent of disability from silicosis when it is first detected. The committee has considered the possibility that such cases should not be reported in the industrial injury rates until the employee begins to lose time or until the extent of disability is more thoroughly known. The committee finally came to the conclusion that there was no provision in the present standard to meet this situation and found that there did not appear to be any clear cut suggestion which would completely serve to answer this question. As the lesser of two evils, the committee has suggested that silicosis cases should be charged to the first date when it becomes known that an employee does in fact have silicosis, and that the time charges for the case will have to be based upon the best medical estimate as to the probable total extent of disability.

Case 241

An employee was hired for summer work in the Laboratory and the labor gang. He had been working for the Company about one month when he was injured. On the day of his injury he was assigned to work in the Laboratory. About 1:00 P.M. in the afternoon, without the knowledge or consent of his foreman, he left the Laboratory and went about one-quarter of a mile out in the plant to converse with other employees in his car pool. These employees were working inside of a large tank. The injured employee climbed to the top of the tank, and while descending the stairway inside the tank, slipped and fell a distance of seven feet, fracturing his left elbow.

The committee decided that this case should be included in the rates on the basis that discussion of the car pool problem, with or without permission of the supervisor, was sufficiently related to the employee's work that he had not taken himself out of his employment at the time of his injury.

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Case 242

On a construction job, a vibrator operator came into the First Aid Station suffering with what was believed to be a muscle strain of the right wrist. He was given heat therapy and bound up with an elastic bandage. Four days later, when there was no improvement, the first aid attendant sent this employee to the company doctor who diagnosed the alleged injury as a ganglion and prescribed only moderate use.

In the meantime this employee had done no vibrator work and was assigned to connect the air hose to concrete buckets. This he did with his left hand. When the right wrist did not respond to moderate use, the doctor punctured the ganglion and was ready to use surgery to eliminate it if it did not respond to the puncture drainage. The man was in great discomfort and his superintendent, foreman, and buddies urged him to seek relief from another doctor. He asked for referral to a specialist.

The specialist was located 75 miles from the job. The employee went to the specialist, was examined and x-rayed, and returned to the job in time for work on his regular shift. The following day the company doctor advised the employee that the specialist had advised surgery and wanted to do the surgery himself. The company doctor believed that this surgery could be done between shifts and the man could do useful work such as he had been doing since the start of this injury.

As a matter of fact, the employee was hospitalized the night before the surgery and lost a total of four days from work.

The company contended, first, that a ganglion is non-occupational, and second, that because of their own doctor's opinion that it was not necessary to lose any time in conjunction with this surgery, this case should not be included in their rates.

The committee determined that ganglions can be of occupational origin and that this case should be included in the rates as a temporary total disability on the basis of the days lost due to the operation which was advised by the specialist.

Consumer Board Elects Officers

THE Consumer Goods Standards Board, which has charge of all work under the procedure of the American Standards Association of interest to the ultimate consumer, has elected officers for 1954.

Dr Ephraim Freedman is the newly elected chairman of the Board for this year. Dr Freedman is director of the Bureau of Standards of R. H. Macy, New York, and represents the National Retail Dry Goods Association on the Board. He served as first vice-chairman last year. Dr Freedman was selected as the Standards Personality of the month (STDZN, June 1953, p 185).

Dr Ephraim Freedman

Charles W. Dorn is the Board's newly elected first vice-chairman. Mr Dorn is Director of the Research and Testing Laboratory, J. C. Penney Company, New York. He is a graduate of the University of Louisville, with a B.S. in Chemistry and served as chief chemist of the Melba Manufacturing Company, Chicago, and later of Norieda Perfumery, New York, before becoming Director of Penney's Research Laboratory in 1929. Mr Dorn has been very active in association work. He is chairman of the Technical Committee on Research of the American Association of Textile Chemists and Colorists, and vice-chairman of the Association's Executive Committee on Research. He is also a member of the Joint Committee of AATCC and

Charles W. Dorn

ASTM which determines the research policies of the two organizations. Mr Dorn is chairman of the Technical Committee of the National Retail Dry Goods Association. In addition to membership on the Standards Council of the American Standards Association, he represents NRDGA and AATCC on a number of ASA committees. His interest is international as well as national, and he is serving as chairman of the Steering Committee of the USA group on Textiles for cooperation with the International Organization for Standardization through Technical Committee 38.

Mr Dorn's outstanding position in his field has been recognized by his industry which has made him chairman of the standing committees on Commercial Standards for testing and reporting textiles and on flammability of clothing textiles. These Commercial Standards are developed through the procedure of the U.S. Department of Commerce. He is also chairman of industry advisory committees to the Federal Trade Commission on water repellent fabrics and rainwear, and on shrinkage of wool products.

Mrs Andrew P. Cope

Mrs Andrew P. Cope, Social Studies Chairman of the American Association of University Women, New York State Division, was elected

Albert E. Johnson

second vice-chairman of the Consumer Goods Standards Board. Mrs Cope was graduated from Temple University with an A.B. in mathematics and has worked in the precision laboratory of Frankford Arsenal and with Sperry Gyroscope as an assistant project engineer in fire control development. Current activities, she reports, are "two sons, ages 5 and 7," and her work as Social Studies Chairman of the AAUW New York State Division. She represents AAUW on the Consumer Goods Standards Board.

Albert E. Johnson, Director of Trade Relations, National Institute of Dry Cleaning, New York, was re-elected third vice-chairman of the CGSB for this year.

FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering please refer to the number following the title.

003.62 SIGNS, NOTATIONS, SYMBOLS

Denmark (DS)

Transliteration of Cyrillic characters — DS 378

Netherlands (HCNN)

Practical system of units — Explanatory notes relative to Standards N 1221-1224 — N 950

4 standards for symbols used in different branches of science — N 1221/4

025 LIBRARY ADMINISTRATION

Denmark (DS)

Abbreviation of titles of periodicals — DS 909

332 FINANCE

Belgium (NBN)

Draft forms — NBN 220

France (AFNOR)

Symbols of monetary units — NF K 10-02

Form of a note showing the reason of non-payment — NF K 11-42

389 METROLOGY. WEIGHTS AND MEASURES

United Kingdom (BSI)

Preferred numbers — BS 2045:1953

526.8 CARTOGRAPHY

Norway (NSF)

3 standards for different topographical map symbols — NS 740/1, 746

536 HEAT. THERMODYNAMICS

United Kingdom (BSI)

Clinical maximum thermometers — BS 691:1953

54 CHEMISTRY

United Kingdom (BSI)

Recommended method for the spectographic analysis of low alloy steels — BS 1121B:1953

Methods for the sampling and chemical analysis of rennet casein — BS 1416:1953

Separating funnels — BS 2021:1953

Acetic anhydride — BS 2068:1953

Brewers' mash flask — BS 701:1953

Micro-centrifuge accessories; microchemical apparatus; group E; general accessory apparatus — BS 1428: Part E3:1953

549 MINERALOGY

France (AFNOR)

Classification of phlogopite mica — NF T 13-001

614.8 SAFETY MEASURES

Sweden (SIS)

4 standards for different shapes and colors of warning signs — SIS 90 00 03/6

615 PHARMACY. THEURAPEUTICS

Norway (NSF)

2 types aluminum or stainless steel cups — NS 638/9

3 types hospital food containers with lids — NS 641/3

7 crockery or china hospital dining articles — NS 645/9, 654/5

Table knives — NS 652 A

Ordinary hospital bed for adults — NS 672

Hospital bed for chronic patient — NS 673

2 sizes of hospital beds for children — NS 675/6

8 standards for different parts of transfusion equipment — NS 687/694

South Africa (SABS)

Unbleached and bleached calico bandages — SABS 444-1953

Absorbent (unmedicated) gauze — SABS 446-1953

Pyrogen-free water for injection — SABS 440-1953

United Kingdom (BSI)

Diagnostic rubber fingerstalls — BS 2055:1953

Patients' trolleys (tilting top) for indoor use in hospitals — BS 2057:1953

Maternity cribs (canvas) — BS 2077:1954

615.478 MEDICAL AND SURGICAL FURNITURE

South Africa (SABS)

Bedside lockers — SABS 343-1952

615.777 DISINFECTANTS. ANTICEPTICS. INSECTICIDES

United Kingdom (BSI)

Recommended common names for pest control products — BS 1831: Part 2:1953

620.1 TESTING MATERIALS

France (AFNOR)

Testing for permeability of protective materials to water vapor — NF X 41-001

Testing for protection against corrosive action of briny vapors — NF X 41-002

List of species of fungi used in tests for protection of materials — NF X 41-501

Germany (DNA)

Fatigue testing. Terminology in four languages — DIN 50100

Testing machines. General — DIN 51220

621.13 RAILWAY LOCOMOTIVES

Germany (DNA)

3 types of locomotive water cocks — DIN 33229/31

Self-closing water-level indicator — DIN 33262, B1.1,2

Wash-hole frame for locomotive boiler — DIN 36207

Slotted screwing and welded studs — DIN 30360

Studs, one end Whitworth, another Metric thread — DIN 30322/3

Rivets used in locomotive construction — DIN 30500

Thermometers — DIN 38261

621.3 ELECTRICAL ENGINEERING

Canada (CSA)

Construction and test of industrial control equipment for use in ordinary (non-hazardous) locations — CSA C22.2 No. 14-1953

Construction and test of outlet boxes, conduit boxes and fittings — CSA C22.2 No. 18-1953

Construction and test of electric washing machines — CSA C22.2 No.53-1953

Specification for paper-insulated power cable "solid" type — CSA C68 (A)-1953

Germany (DNA)

Oil-draining valve for transformers — DIN 42551

Insulated bushing for 10-30 kv, 200 amp — DIN 42531

Copper bus-bars — DIN 43671

Socket for broadcasting antenna — DIN 41587

Socket for automobile radio antenna — DIN 41585

Lamp base type BA 7s — DIN 49710

Open-mining electric locomotive, 100 ton, controller diagram — DIN 43280

G-fuses, 250 v for telecommunication — DIN 48341

Fixed electrolytic capacitors for telecommunication — DIN 41325

Rib-insulators for outside installation, 10, 20 and 30 kv — DIN 43632

Crossbars for overhead telecommunication lines — DIN 48320

Clamps for cable — DIN 47642

Lids for cable junction boxes — DIN 47643

Grounding bushing — DIN 47675

Different forms of shaft ends of controllers — DIN 46060

D-Fuse socket type E 27, 25 amp 500 v — DIN 49316

D-Fuse socket type E 33, 60 amp 500 v — DIN 49317

Gages for D-Fuses E 16, E 27 and E 33 — DIN 49361

Tapered insulation for collectors — DIN 43270

Storage batteries — DIN 40850

Telecommunication. G-Fuses — DIN 41680

Variable capacitors — DIN 41360

India (ISI)

Rubber insulated cables and flexible cords for power and lighting installations — IS:434

Transformer and switch gear oil (Low viscosity type) — IS:335

Israel (SII)

Automobile lead-acid storage batteries — S.I. 87/89

Insulated steel conduits for electric wiring — S.I. 95

Japan (JISC)

High frequency ammeters, thermo-electric type — JIS C 1101

Insulation resistance tester — JIS C 1301

Silicon steel sheets for electric purposes — JIS C 2501

Designation system for transmitting tubes — JIS C 7002

Spot- and flood-light lamps — JIS C 7512

Conduits, their couplings, straps, etc. — JIS C 8330/1, -8334, -8343

Christmas-tree electric bulbs — JIS C 9503*

Insulated tissue paper — JIS C 2303

High tension capacitor paper — JIS C 2306

Insulating paper for electric power cables — JIS C 2307

Insulating paper for telephone cables — JIS C 2308

Phosphor-bronze wire for binding electrical machines — JIS C 2508

Flat copper wire for electrical purposes — JIS C 3104

3-phase induction motors for export — JIS C 4205

Line transformers for export — JIS C 4303

Source voltage for radio transmitters — JIS C 6001
Nomenclature for Braun tubes — JIS C 7003
Testing method for ray protection of X-ray tubes — JIS T 1104

Mexico (DGN)

Lamp sockets — DGN J-24
Electric lamps for camps, ships, railroads, etc. — J 25

Netherlands (HCNN)

Telecommunication. Rules for testing indoor cables — V 957
Straight stamped sweating lugs for cables — V 1438
Tungsten filament lamps for general service — V 299
Frequency and wavelength ranges — V 1220

South Africa (SABS)

Two-pole and earthing-pin plugs and socket-outlets — SABS 164-1953

Spain (IRATRA)

Standard voltages and frequencies — UNE 20039

Sweden (SIS)

Instrument transformers — SEN 9
Meter mounting boards — SEN 58
Designation of electrical magnitudes and units of measurement — SEN 2
Amplifiers — SEN 36
Electro-ceramics, Tolerances — SEN 6601
Panels for rectangular flanged measuring instruments — SEN 3901

Switzerland (SNV)

Square and oblong frames for electric apparatus — VSM 23210/1

USSR

Generators for automobiles and tractors — GOST 3048
Shaft ends of electric machines — GOST 3222
Asbestos-cement mounting boards for electric apparatus, etc. — GOST 4248
Porcelain bushings for insulating tubes — GOST 6256
High-tension warning signs — GOST 6395

United Kingdom (BSI)

Electrical protective relays — BS 142:1953
Metal rectifiers for intrinsically safe signalling and control circuits — BS 2031:1953
Enamelled round copper wire (enamel with vinyl acetal base) (metric units) — BS 2039:1953
Protective transformers — BS 2046:1953
Determination of power-factor and permittivity of insulating materials — BS 2067:1953
Thermosetting synthetic resin bonded-paper insulating sheets for use at radio frequencies — BS 2076:1954
Dimensions of fractional horse-power motors — BS 2048:1953

Uruguay (UNIT)

Thermoplastic insulated conductors — UNIT 98-53

621.4 INTERNAL COMBUSTION ENGINES

Japan (JISC)

Small land type internal combustion engines for export — JIS B 8010*
Standard design small gasoline engines — JIS B 8011
Standard design small Diesel engines — JIS B 8012
Piston rings for internal combustion engines — JIS B 803/2
Inspection of small land type internal combustion engines — JIS B 8010
Bicycle motor for export — JIS B 8021

Spain (IRATRA)

3 standards for piston rings — UNE 10016, -10018, -10024

621.5 PNEUMATIC MACHINES, REFRIGERATION TECHNOLOGY

Czechoslovakia (CSN)

4 standards for air-brake pressure regulators — CSN 44 5185/8
Refrigerator doors — CSN 14 6301

621.6 APPARATUS FOR CONVEYANCE AND STORAGE OF GASES AND LIQUIDS. CONDUITS AND PUMPS

Czechoslovakia (CSN)

5 standards for different pumps and parts — CSN 11 0116, -0118, -1450, -1460

France (AFNOR)

Dimensions of horizontal petroleum tanks — NF M 88-510
Petroleum pressure gages — NF M 88-901

Israel (SII)

Containers for liquefied hydrocarbon gases — SI 70

Japan (JISC)

Wedge gate valves, cast iron for 10kg/sq cm pressure — JIS B 2043
High-pressure gas cylinders — JIS B 8241*

Mexico (DGN)

Outlet valves for liquid petroleum gas cylinders — B 58

Netherlands (HCNN)

Fans. Definitions and designations — V 1048

Sweden (SIS)

Wall type tap with pivoting spout — SMS 1014
Stop cock, nominal pressure 12.5 atm — SMS 1024
Exhaust strainers, two types — SMS 1029/30
5 standards for different types mixer taps for bath and showers — SMS 1041/3, -1045, -1056
Two types of taps — SMS 1087/8
11 standards for different pipe fittings — SMS 1202/12

USSR

Valves for small capacity gas tanks — GOST 1638

621.643 PIPES AND ACCESSORIES

Argentina (IRAM)

Lead pipes — IRAM 2515
Brass Seamless pipes — IRAM 2521

Canada (CSA)

Vitrified clay pipe — CSA A60-1953

Germany (DNA)

Screw threading of unthreaded pipes — DIN 3851
Screwed-in pipes — DIN 3852, B1.1,2
Data for check-valves, cast iron and cast steel — DIN 3231

Italy (UNI)

High-pressure pipes and fittings; general specifications — UNI 3355

Japan (JISC)

Steel pipe couplings, screwed type — JIS B 2301

United Kingdom (BSI)

Cast-iron flanged pipes and flanged fittings — BS 2035:1953
Oil suction and discharge host with built-in nipples for 100, 150, and 200 lb/ sq in. pressures — BS 1435:1953
Copper and copper alloy capillary and compression tube fittings (for use with fractional od sizes of tubes) for engineering purposes — BS 2051:part 1: 1953

Uruguay (UNIT)

Cast-iron pipes — UNIT 94-53

621.72 LUBRICATION

Sweden (SIS)

Lubricating nipples — SMS 1567, -1569
Grease cups, two types — SMS 1579/80

621.753 TOLERANCES, FITTINGS, GAGES

Canada (CSA)

Limits and fits for engineering and manufacturing — CSA B97-1954

United Kingdom (BSI)

Tolerances for mouldings in thermosetting materials — BS 2026:1953
Guide to the selection of fits — BS 1916: part 2:1953

621.791 SOLDERING. WELDING. CUTTING

Germany (DNA)

Hose for gas welding apparatus — DIN 8541
Gas welding and cutting nozzles — DIN 8543

South Africa (SABS)

Copper-alloy welding rods — SABS 392-1952

621.798 PACKING AND DISPATCH EQUIPMENT

Argentina (IRAM)

Containers for vegetable oils — IRAM 5527
Metal containers, terminology — IRAM 6001

Australia (SAA)

Low carbon steel cylinders for compressed acetylene dissolved in acetone — AS No. B.13-1953

Canada (CSA)

Temporary specification for corrugated fibreboard boxes and products for use by defense services — CSA Z102. 12T-1953

France (AFNOR)

50-liter drums for mineral oil — NF H 31-105
Steel or cast iron plugs for bungs — NF H 31-151
Corrugated steel drums for carbide — NF H 31-202

Germany (DNA)

Form of corrugation on the mouth of glass containers — DIN 6048

JAPAN (JISC)

Export packing for cameras — JIS Z 0702
Export packing for binoculars — JIS Z 0704
Export packing for matches — JIS Z 1001

Sweden (SIS)

Round and oblong cardboard containers — SIS 711103/4
6 standards for wooden boxes for food — SIS 712000, -712002/6

United Kingdom (BSI)

Tins for paints and varnishes — BS 1262:1953
Mechanical aids in package handling — BS 1133: Section 4:1953
Broccoli crates — BS 2034:1953
Fibreboard and composite drums — BS 1596:1953
Use of desiccants in packaging — BS 1133: Section 19:1953

621.86/.87 HOISTING AND CONVEYING MACHINERY

Germany (DNA)

Guide rails and plates for elevators — DIN 15313

Spain (IRATRA)

Sprocket wheel for calibrated chain — UNE 18024

IEC to Celebrate *50th Anniversary*

SEVEN hundred electrical technical experts from 29 countries and the USA will attend the fiftieth anniversary meeting of the International Electrotechnical Commission (IEC) to be held on the campus of the University of Pennsylvania, Philadelphia, September 1-16. The U.S. National Committee, an arm of the American Standards Association, is the group through which USA participation in the event is being carried on.

Dr Harold S. Osborne, formerly chief engineer, American Telephone and Telegraph Company, is IEC President. Richard C. Sogge, General Electric Company, is president of the U.S. National Committee of IEC. P. H. Chase, Philadelphia Electric Company, is chairman of the General Committee in charge of arrangements.

The delegates will hold 226 morning and afternoon sessions in which they will work on international standards in the field of electric light, power, and communications. About 300 of those attending will come from foreign countries.

The work of the IEC is carried on by 37 technical committees, 26 of which will hold sessions in Philadelphia. The work covers the entire field of the electrical art and includes such specific committee subjects as dimensions of motors, standard voltages, current ratings and frequencies, overhead lines, safety, insulating materials, and electronic tubes.

The United States heads five of the committees: steam turbines, hydraulic turbines, internal combustion engines, letter symbols and signs, and lightning arrestors.

The Philadelphia meetings will include an all-day Jubilee celebration on September 9 commemorating 50 years of IEC. Speakers will be Lord Waverley, chairman of the Port of London Authority and past president of the British Standards Institution; Dr Hakan Sterky, head of the Swedish communication system; M. Pierre Ailleret, director of Electrocité de France; and Dr Lee A. DuBridge, president, California Institute of Technology. A banquet in the Bellevue Stratford Hotel will be held that evening.

The meetings are being made possible by funds contributed by American industry, particularly in the electrical and allied fields. Chairman of the finance committee formed for raising funds is Walker Cisler, president, Detroit Edison Company. Other members are Max F. Balcom, Director, Sylvania Electric Products, Inc; General W. H. Harrison, president, International Telephone and Telegraph Corporation; A. C. Monteith, vice-president, Westinghouse Electric Corporation; W. V. O'Brien, commercial vice-president, General Electric Company; R. G. Rincliffe, president, Philadelphia Electric Company; J. Frank Roberts, vice-president, Allis-Chalmers Manufacturing Company; E. J. Schwanhausser, executive vice-president, Worthington Corporation; J. K. Sprague, president, Sprague Electric Company.

The IEC was founded in St Louis in 1904 with Lord Kelvin (Sir William Thomson) of England as first president. The first and only meeting held in this country took place in New York in 1926.

Other IEC meetings have been held since World War II in Lucerne, Stockholm, Stresa (Italy), Paris, Estoril (Portugal), Scheveningen (Netherlands), and Opatija (Yugoslavia).

The IEC has approved 30 International Recommendations. These are recognized by all members as expressing as nearly as possible an international consensus on the subjects dealt with. Each country undertakes to make every effort to harmonize its national electrical standards with the recommendations insofar as national conditions permit.

The work of the IEC falls into two broad categories:

1. Work aiming at bringing a better understanding among the electrical engineers of the various countries by making available to them common means of expression —unification of the electro-technical nomenclature through the publication of an international vocabulary in several languages; agreements on units and quantities used in electricity; agreement on symbols and notations; systems of units; the setting up of graphical symbols for use in drawings having to do with electrical installations.

2. The preparation of standards for electrical machinery and apparatus. This involves the study of problems regarding the electrical properties of materials used in the construction of electrical equipment, the unification of guarantees to be given for certain types of equipment, agreements on ratings, testing methods, quality, safety, and dimensions to ensure interchangeability of machines, apparatus, and accessories. The object of such standardization is to set up on these various points an internationally agreed criterion for the purpose of facilitating international trade, in particular by giving the purchasers a basis for the comparison of tenders, from whatever country they emanate.

WHAT IS YOUR QUESTION?

Where can I buy audiometers that conform to American Standards Z24.5-1951, Z24.12-1952, and Z24.13-1953; also, hearing aids that meet the requirements of American Standard Z24.14-1953?

The audiometer standards, in particular, are based on standards originally issued by the American Medical Association. The AMA has, therefore, adopted these American Standards and has compiled a list of audiometers, and possibly hearing aids, that conform to the American Standards and thus satisfy AMA requirements. This list can be obtained from Howard A. Carter, Secretary, Council on Physical Medicine and Rehabilitation, American Medical Association, 535 North Dearborn Street, Chicago 10, Ill.

Is American Standard B46.2-1952, Physical Specimens of Surface Roughness and Lay, a printed document or does it contain the actual specimens?

This American Standard is a document which contains specifications for two types of physical specimens of surface roughness and lay. The first part of the standard gives specifications for surfaces intended as precision reference specimens of roughness height for checking the calibration of instruments. The second part gives specifications for surface finish specimens illustrating commonly used machined surfaces embracing a range of roughness values and methods of manufacture. The actual specimens, made in accordance with these specifications, are available from the manufacturers. A list of manufacturers can be obtained from the American Standards Association.

Are there specifications for ramps for pedestrian use? —

Section 3 of the American Standard Building Exits Code, A9.1-1953 (National Fire Protection Association, sponsor) contains specifications for ramps used as substitutes for stairways in building exits. These are the only nationally approved standards for pedestrian ramps for any purpose. Slope of ramp is specified for different types of occupancy — for example, ramps substituting for Class A stairs (which must accommodate large crowds) have a slope not greater than 1 foot in 10 feet.

What does ASME S-18 stand for?

This is the number formerly assigned by the American Society of Mechanical Engineers to Specifications for Welded and Seamless Steel Pipe, now numbered SA 53 in the ASME Boiler Code Specifications for materials. This standard is identical with ASTM Specification A53-47, which has been approved as American Standard B36.1-1950.

Is there a standard for dimensions of collets for use in lathes or screw machines?

A thorough survey was made several years ago to determine whether it would be advisable to develop such a standard. As a result, Sectional Committee B5 on Small Tools and Machine Tool Elements decided against doing so. The committee was of the opinion that because of the large number of different machines any single standard would have only a limited use.

What standards carry an NAS number?

NAS stands for National Aircraft Standards. These are issued by the National Aircraft Standards Committee, an activity of the Aircraft Industries Association of America.

TOWNSEND HEADS NEW MATERIALS BOARD

• • **At the request of the Assistant Secretary of Defense for Research and Development,** Mr D. A. Quarles, the National Academy of Sciences has enlarged the scope of its Minerals and Metals Advisory Board. The Board has been reconstituted as a Materials Advisory Board, with a broadened membership to include experts in such non-metallic materials as plastics, wood products, ceramics, etc. The Board supplies information to the Department of Defense in the form of reports on conservation of materials. It also calls attention to areas where research in materials should be fostered.

J. R. Townsend, Director of Material and Standards Engineering, Sandia Corporation, Albuquerque, New Mexico, has been named chairman of the new committee. Mr Townsend is chairman of the Standards Council of the American Standards Association.

Gaillard Seminar

THE next five-day Gaillard Seminar on Industrial Standardization will be held from June 21 through 25, 1954, in the Engineering Societies Building, 29 West 39 Street, New York City. Seminar leader is Dr John Gaillard, management counsel specializing in advice on standardization problems; lecturer at Columbia University; and formerly, mechanical engineer, American Standards Association.

The June, 1954, seminar will consist of ten conferences, two being held each day, Monday through Friday, one in the morning (9:30 to 12:00) and one in the afternoon (1:30 to 4:00). At each conference one of the subjects on the seminar program will be presented by Dr Gaillard and then discussed around the table. This will give the conferees an opportunity to bring up their own problems, exchange views, and obtain information of basic value to their work.

The Gaillard Seminars were started in 1947 when business enterprises in various branches of industry asked for advice on the organization of their standardization work and the training of staff men in the principles and procedures of handling it. The seminar sessions have so far been attended by 233 men representing 132 organizations.

For further details and registration, write to Dr John Gaillard, 400 West 118 St, New York 27, N. Y. Places at the seminar may be reserved in advance.

AMERICAN STANDARDS

Status as of March 15, 1954

Legend

Standards Council—Approval of Standards Council is final approval as American Standard; usually requires 4 weeks.

Board of Review — Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks.

Standards Boards — Approve standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.

Building

American Standards Published —

Method of Sampling Magnesium Oxychloride Compositions and Ingredients, ASTM C237-51; ASA A88.10-1953 $0.25

Method of Test for Sieve Analysis of Magnesium Oxychloride Compositions, Aggregates and Fillers, ASTM C238-51; ASA A88.11-1953 $0.25

Method of Test for Sieve Analysis of Plastic Calcined Magnesia, ASTM C239-51; ASA A88.12-1953 $0.25

Methods for Chemical Analysis of Magnesium Sulfate, Technical Grade, ASTM C244-52; ASA A88.13-1953 $0.25

Methods for Chemical Analysis of Magnesium Chloride, ASTM C245-52; ASA A88.14-1953 $0.25

Methods for Physical Testing of Magnesia for Magnesium Oxychloride Cements, ASTM C246-52; ASA A88.15-1953 $0.25

Methods of Test for Ignition Loss and Active Calcium Oxide in Magnesium Oxide for Use in Magnesium Oxychloride Cements, ASTM C247-52; ASA A88.16-1953 $0.25

Method of Test for Bulk Density of Magnesium Oxychloride Cements, ASTM C248-52; ASA A88.17-1953 $0.25

Method of Slump Test for Field Consistency of Magnesium Oxychloride Cements, ASTM C249-52; ASA A88.18-1953 $0.25

Specifications and Method for Field Determination of Specific Gravity of Gauging Solutions for Magnesium Oxychloride Cements, ASTM C250-52; ASA A88.19-1953 $0.25

Method for Mixing Magnesium Oxychloride Cement Compositions with Gauging Solution (for Preparation of Specimens for Laboratory Tests), ASTM C251-52; ASA A88.20-1953 $0.25

Method of Test for Linear Contraction of Magnesium Oxychloride Cements, ASTM C252-52; ASA A88.21-1953 $0.25

Methods of Test for Linear Change of Magnesium Oxychloride Cements, ASTM C253-52; ASA A88.22-1953 $0.25

Method of Test for Setting Time of Magnesium Oxychloride Cements, ASTM C254-52; ASA A88.23-1953 $0.25

Method of Test for Consistency of Magnesium Oxychloride Cements by the Flow Table, ASTM C255-52; ASA A88.24-1953 $0.25

Method of Test for Flexural Strength of Magnesium Oxychloride Cements (Using Simple Bar with Two-Point or Single-Point Loading), ASTM C256-52; ASA A88.25-1953 $0.25

Method of Test for Compressive Strength of Magnesium Oxychloride Cements, ASTM C257-52; ASA A88.26-1953 $0.25

Sponsors: American Society for Testing Materials; National Bureau of Standards

American Standards Approved —

Method of Test for Time of Setting of Hydraulic Cement by Gillmore Needle, ASTM C266-52T; ASA A1.17-1954

Specifications for Masonry Cement, ASTM C91-53; ASA A1.3-1954 (Revision of ASTM C91-49; ASA A1.3-1950)

Specifications for Portland Cement, ASTM C150-53; ASA A1.1-1954 (Revision of ASTM C150-49; ASA A1.1-1950)

Specifications for Air-Entraining Portland Cement, ASTM C175-53; ASA A1.16-1954 (Revision of ASTM C175-48T; ASA A1.16-1950)

Methods of Test for Compressive Strength of Hydraulic Cement Mortars, ASTM C109-52; ASA A1.4-1954 (Revision of ASTM C109-49; ASA A1.4-1950)

Methods of Test for Chemical Analysis of Portland Cement, ASTM C114-53; ASA A1.5-1954 (Revision of ASTM C114-47; ASA A1.5-1948 R1950)

Methods of Test for Fineness of Portland Cement by Turbidimeter, ASTM C115-53; ASA A1.7-1954 (Revision of ASTM C115-42; ASA A1.7-1948 R1950)

Methods of Test Autoclave Expansion of Portland Cement, ASTM C151-53; ASA A1.8-1954 (Revision of ASTM C151-49; ASA A1.8-1950)

Methods of Test for Air Content of Portland Cement Mortar, ASTM C185-53T; ASA A1.9-1954 (Revision of ASTM C185-49T; ASA A1.9-1950)

Methods of Test for Heat of Hydration of Portland Cement, ASTM C186-53; ASA A1.10-1954 (Revision of ASTM C186-49; ASA A1.10-1950)

Methods of Test for Time of Setting of Hydraulic Cement by Vicat Needle, ASTM C191-52; ASA A1.15-1954 (Revision of ASTM C191-49; ASA A1.15-1950)

Specifications for Inorganic Aggregates for Use in Interior Plaster, ASTM C35-53T; ASA A107.1-1954

Specifications for Granite Block for Pavement, ASTM D59-53; ASA A37.35-1954 (Revision of ASTM D59-39; ASA A37.35-1948)

Method of Test for Bitumen, ASTM D4-52; ASA A37.3-1954 (Revision of ASTM D4-42; ASA A37.3-1943)

Method of Test for Penetration of Bituminous Materials, ASTM D5-52; ASA A37.1-1954 (Revision of ASTM D5-49; ASA A37.1-1951)

Method of Test for Abrasion of Coarse Aggregate by Use of the Los Angeles Machine, ASTM C131-51; ASA A37.7-1954 (Revision of ASTM C131-47; ASA A37.7-1948)

Method of Test for Distillation of Tars and Tar Products, ASTM D20-52; ASA A37.9-1954 (Revision of ASTM D20-30; ASA A37.9-1943)

Method of Test for Slump of Portland-Cement Concrete, ASTM C143-52; ASA A37.29-1954 (Revision of ASTM C143-39; ASA A37.29-1948)

Method of Sampling Fresh Concrete, ASTM C172-52T; ASA A37.30-1954 (Revision of ASTM D172-44; ASA A37.30-1948)

Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method, ASTM C231-52T; ASA A37.70-1954 (Revision of ASTM C231-49T; ASA A37.70-1951)

Method of Test for Specific Gravity of Road Oils, Road Tars, Asphalt Cements, and Soft Tar Pitches, ASTM D70-52; ASA A37.71-1954 (Revision of ASTM D70-27; ASA A37.71-1951)

Method of Test for Specific Gravity of Asphalts and Tar Pitches Sufficiently Solid to be Handled in Fragments, ASTM D71-52; ASA A37.72-1954 (Revision of ASTM D71-27; ASA A37.72-1951)

Definitions of Terms Relating to Materials for Road and Pavements, ASTM D8-52; ASA A37.33-1954 (Revision of ASTM D8-49; ASA A37.33-1951)

Sponsor: American Society for Testing Materials

In Board of Review —

Specifications for Gypsum Partition Tile or Block, ASTM C52-41; ASA A105.1

Specification for Standard Strength Perforated Clay Pipe, ASTM C211-50; ASA A106.1

Specifications for Drain Tile, ASTM C4-50T; ASA A6.1 (Revision of ASTM C4-24; ASA A6-1925)

Specifications for Sewer Brick (Made from Clay or Shale) ASTM C32-50; ASA A100.1

Specifications for Ceramic Glazed Structural Clay Facing Tile, Facing Brick and Solid Masonry Units, ASTM C126-52T; ASA A101.1

Specifications for Vitrified Filter Block for Trickling Filters, ASTM C159-51; ASA A102.1

Specifications for Chemical-Resistant Masonry Units, ASTM C279-52T; ASA A103.1

Definitions of Terms Relating to Structural Clay Tile, ASTM C43-50; ASA A104.1

Sponsor: American Society for Testing Materials

Consumer

In Consumer Goods Standards Board —

Specifications for Milled Toilet Soap,

ASTM 455-53T; ASA K60.6 (Revision of ASTM D455-48; ASA K60.6-1949)
Sponsor: American Society for Testing Materials

Drawings and Symbols

American Standard Published —

Letter Symbols for Acoustics, Y10.11-1953 $1.00
Sponsor: American Society of Mechanical Engineers

American Standard Approved —

Graphical Symbols for Electrical Diagrams, Y32.2-1954
Sponsors: American Institute of Electrical Engineers; American Society of Mechanical Engineers

Electrical

American Standards Published —

Specifications for Soft or Annealed Copper Wire, ASTM B3-53T; ASA C7.1-1953 (2nd ed) (Revision of ASTM B3-52T; ASA C7.1-1953 1st ed) $0.25
Cover drawn and annealed or soft round bare copper wire for electrical purposes.

Specifications for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members for Electrical Purposes, ASTM B172-53T; ASA C7.12-1953 (2nd ed) (Revision of ASTM B172-52T; ASA C7.12-1953 1st ed) $0.25
Cover bare rope-lay-stranded conductors having bunch-stranded members made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy coatings, for use as electrical conductors.

Specifications for Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members for Electrical Conductors, ASTM B173-53T; ASA C7.13-1953 (2nd ed) (Revision of ASTM B173-52T; ASA C7.13-1953 1st ed) $0.25
Cover bare rope-lay-stranded conductors having concentric-stranded members made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy coatings, for use as electrical conductors.

Specifications for Bunch-Stranded Copper Conductors for Electrical Conductors, ASTM B174-53T; ASA C7.14-1953 (2nd ed) (Revision of ASTM B174-52T; ASA C7.14-1953 1st ed) $0.25
Cover bare bunch-stranded conductors made from round copper wires, either uncoated or coated with tin, lead, or lead-allow coatings for use as electrical conductors.
Sponsor: Electrical Standards Board

Schedules of Preferred Ratings for Power Circuit Breakers, C37.6-1953 (Revision of C37.6-1949) $0.40
Lists preferred ratings for indoor oil, indoor oilless, and outdoor power circuit breakers.

Transformers, 67,000 Volts and Below, 501 through 10,000 Kva, 3 Phase; 501 through 5,000 Kva, 1 Phase, C57.12a-1954 $1.00
This standard is supplementary to American Standard for Distribution, Power and Regulating Transformers, and Reactors, C57.12-1949. This supplement covers electrical characteristics and mechanical features of 60-cycle, 2 winding, mineral-oil-filled transformers rated as indicated in the title, and generally used for step-down purposes.
Sponsor: Electrical Standards Board

In Board of Review —

Method for Determining Flutter Content of Sound Recorders and Reproducers, Z57.1
Sponsor: Institute of Radio Engineers

American Standard Withdrawn —

Dimensional Characteristics of Gaskets for Water-Cooled Transmitting Tubes, C60.3-1949
Sponsor: Joint Electron Tube Engineering Council

Mechanical

American Standards Published —

Designation and Working Ranges of Surface Grinding Machines of the Reciprocal Table Type, B5.32-1953 $1.00

Designation and Working Ranges of Plain Cylindrical Grinding Machines, B5.33-1953 $1.00
Sponsors: American Society of Mechanical Engineers; Metal Cutting Tool Institute; National Machine Tool Builders Association; Society of Automotive Engineers

American Standard Approved —

Specification for One-Quart Round Motor Oil Cans, B64.1-1954

In Mechanical Standards Board —

Double-Pitch Power Transmission Roller Chains and Sprockets, B29.3

Double-Pitch Conveyor Roller Chains, Attachments and Sprockets, B29.4
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Mining

In Mining Standards Board —

Quarry Safety Code, M28.1
Sponsor: National Safety Council

Miscellaneous

In Board of Review —

Method of Test for Accelerated Aging of Vulcanized Rubber by the Oxygen-Pressure Method, ASTM D572-53; ASA J4.1 (Revision of ASTM D572-52; ASA J4.1-1953)

Method of Test for Accelerated Aging of Vulcanized Rubber by the Oven Method, ASTM D573-53; ASA J5.1 (Revision of ASTM D573-52; ASA J5.1-1953)
Sponsor: American Society for Testing Materials

Gas Floor Furnaces, CS99-42
Sponsors: American Gas Association; National Bureau of Standards

American Standard Withdrawn —

Outside Dimensions of Plumbago Crucibles for Non-Tilting Furnaces in Non-Ferrous Foundry Practice, H13-1925
Sponsors: American Foundrymen's Society; Crucible Manufacturers Association

Motion Pictures

In Photographic Standards Board —

35-Mm Sound Motion Picture Film Usage in Camera, PH22.2 (Revision of Z22.2-1946)

35-Mm Sound Motion Picture Film Usage in Projector, PH22.3 (Revision of Z22.3-1946)

Dimensions for 8-Mm Motion Picture Film, PH22.17 (Revision of Z22.17-1947)

Dimensions for 35-Mm Motion Picture Positive Raw Stock, PH22.36 (Revision of Z22.36-1947)

Slides and Opaques for Television Film Camera Chains, PH22.94
Sponsor: Society of Motion Pictures and Television Engineers

Photography

In Board of Review —

Method for Determining Photographic Speed and Exposure Index, PH2.5 (Revision of Z38.2.1-1947)
Sponsor: Photographic Standards Board

In Photographic Standards Board —

Method for Indicating the Stability of the Images of Processed Black-and-White Films, Plates, and Papers, PH4.12 (Revision of Z38.8.17-1948)

Method for Determining the Chemical Resistivity and Photographic Inertness of Constructional Materials for Processing Equipment, PH4.13

Specification for Photographic Grade Citric Acid, Anhydrous, PH4.107

Specification for Photographic Grade Sodium Bromide, PH4.207
Sponsor: Photographic Standards Board

Safety

In Safety Standards Board —

Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1 (Revision of Method of Marking Compressed Gas Cylinders to Identify Content, Z48.1-1942)
Sponsor: Compressed Gas Association

• • **The College of Engineering,** State University of Iowa, announces the fifteenth Management Course to be held June 14 through June 26, 1954 in Iowa City.

This is an intensive course for factory managers, foremen, industrial engineers, methods and time-study analysts, cost accountants, and office executives.

Production planning, job evaluation, motion and time study, wage incentives, plant layout, materials handling, quality control, are among the subjects that will be taken up.

Communications concerning the course should be sent to J. Wayne Deegan, 120 Engineering Building, State University of Iowa, Iowa City, Iowa.

What's New on American Standard Projects

Photographic Reproduction of Documents, PH5 —

Sponsor: Council of National Library Associations

Donald C. Holmes, Chief, Photoduplication Service, Library of Congress, is chairman of this recently organized sectional committee. Chester M. Lewis, Librarian of the New York Times, is vice-chairman; and Eugene B. Power, University Microfilms, Ann Arbor, Michigan, is secretary.

Organization of Sectional Committee PH5 was stimulated last year by international work on tests to determine readability of microfilm, on efficiency of microfilm readers, and on terminology used in connection with processes for photographic reproduction of documents. This work is being done by Subcommittee 1 of ISO Technical Committee 46. The French National Standards Association (AFNOR) holds the secretariat. In view of requests for the USA viewpoint on work under way, Sectional Committee PH5 set up a subcommittee to handle the international aspects of standardization in the field of photographic reproduction of documents. The subcommittee is made up of the chairmen of the three subcommittees of Sectional Committee PH5 with a few additional members.

Chairmen of the PH5 subcommittee are:

Micro-transparencies (Subcommittee 1) — Victor J. Moyes, Eastman Kodak Company

Micro-opaques (Subcommittee 2) — Fremont Rider, The Microcard Foundation

Documents Readable without Optical Devices (Subcommittee 3) — George R. Mott, The Haloid Company

Code for Pressure Piping, B31 —

Sponsor: The American Society of Mechanical Engineers

Upon recommendation of the Chemical Industry Advisory Board, Sectional Committee B31 is organizing a subcommittee to undertake development of a section of the Code for Pressure Piping on chemical processes piping. The Chemical Industry Advisory Board has undertaken to assist Committee B31 in securing proper chemical industry representation on the subcommittee. The CIAB recommendation stemmed from a study over a period of more than two years.

Safety Code for the Industrial Use of X-Rays, Z54 —

Sponsor: National Bureau of Standards

Members of this reorganized sectional committee recommend that the scope of this project be enlarged to include the use and application of other radiation-producing devices, such as certain electronic tubes, radioactive static eliminators, and the use of radioactive materials for gaging purposes. The sponsor recommended the change to ASA and the scope has now been expanded to include all types of radiation. It now reads: "Safety standards for the manufacture, installation, operation, use and maintenance of industrial equipment which may give off radiations from radioactive materials or x-rays."

A subcommittee of the Z54 project is now very actively engaged in developing a safety code for industrial uses of beta-rays.

Safety Code for Compressed Air Machinery and Equipment, B19 —

Sponsor: American Society of Mechanical Engineers; American Society of Safety Engineers

Because of the increasing use of natural gas, the B19 sectional committee recommended expansion of its work to cover compressor stations for natural gas pipelines as well as compressed air machinery and equipment. In line with the committee's recommendation, the scope of its work has now been changed to cover compression of gases as well as air. Pipelines for natural gas are covered in the Safety Code for Pressure Piping, B31.1.8-1952, but compressor stations were not previously included in the work of any safety committee. The new scope now covers only compression equipment and no longer covers utilization equipment for compressed air as it did formerly.

Pallets —

Asserting that standards for handling material are necessary to U.S. economy and defense, representatives of the armed forces, government departments, and industry voted to organize a committee to study and develop American Standards for pallets. The vote was taken at a conference February 24.

Forty leaders of industry and government proposed that an ASA project be initiated to undertake the standardization of nomenclature, sizes, materials, and components of pallets, including samplings, inspection, and test procedures.

Chester J. Heinrich, Naval Supply Research and Development Facility, Bayonne, New Jersey, represented the Navy Department. The National Defense Transportation Association was represented by Leo J. Coughlin, Elizabeth, N. J.; the U.S. Department of Commerce by Charles H. Pearce; the Department of Defense, Charles F. Fogarty; the National Security Industrial Association, H. C. Christensen.

Other groups represented included materials handling, trucking, lumber, railroads, insurance, packaging and shipping.

Safety in Construction, A10 —

Sponsors: American Institute of Architects; National Safety Conference

The Japanese Standards Association has been granted permission to translate the American Standard Manual of Accident Prevention in Construction, A10.1-1951. Publisher of the Manual is the Associated General Contractors of America, Inc.

Classification and Designation of Surface Qualities, B46 —

Sponsors: The American Society of Mechanical Engineers; Society of Automotive Engineers

At its last meeting, Sectional Committee B46 agreed that the use of "root-mean-square average (rms)" will be discontinued in the next edition of the American Standard, Surface Roughness, Waviness, and Lay, B46.1-1947. The surface finish rating will be in arithmetical average

(AA) instead. This change is being made in a draft revision now being prepared for circulation to industry.

Cast Iron Pipe, A21 —

Sponsors: American Gas Association; American Society for Testing Materials; American Water Works Association; New England Water Works Association

Use of the American Standards on cast-iron pipe in both Canada and the United States is so widespread that the Canadian Standards Association has decided against setting up separate Canadian Standards. Word from CSA is that action is being taken to approve the American Standards as Canadian Standards.

Hypodermic Syringes and Needles, Z70 —

The first draft of a Proposed American Standard on Glass and Metal Luer Tapers for Medical Applications has been completed by a drafting committee. This committee was authorized by a General Conference on the subject which held its second meeting September 10, 1953. The draft has been circulated for comment to the Conference members with a deadline of March 15. Results of the canvass will determine whether the Conference will meet to vote on the proposal without further revision by the drafting committee.

• • **As suburbanites' thoughts** turn to gardening, they may wish to take the advice of Richard P. White, executive secretary of the American Association of Nurserymen. The Association has issued proposed standards for nursery advertising copy. One of the requirements calls for a statement of the true size on all plants advertised. Grades and sizes for plant materials have been worked out by the American Association of Nurserymen and many other authorities, and have been approved by the American Standards Association, Mr White explains. "Where sizes are not specified in the copy, the advertising should be questioned," he advises. "Otherwise, the consumer may be led to believe he is receiving a mature plant, whereas it may be only a rooted cutting or seedling."

STANDARDS OUTLOOK

by LEO B. MOORE

THE standards engineer who determines to forge ahead in standardization must start with top management support, or else he fails. No other single factor is more important. Others are desirable, but this is an absolute necessity. The standards engineer who is satisfied with less than enthusiastic cooperation from his top management group creates his own inevitable downfall.

Standards engineers vary in their attitudes toward support. Some say — "the top men never bother us," while others state — "the top group never complains." Some point to the size of their department, or to the amount of the budget, or to the size of the standards books. They all come to the conclusion that these show support. In many ways these facts do show acceptance, but not necessarily the kind of support which is required for continued advance toward success.

Acceptance has a way of growing; support must be fought for, won, and safeguarded, while still more support is being fought for, and won. This is true for every service function in a company. The standards department is a service group, set up to provide certain kinds of desirable functions to the line organization. As such, standards, with all the other service groups, come second to the line in top management concern, until the particular service is needed to keep the line running. If service is provided, it is accepted. If service is needed, it is demanded. Management prefers the first condition, in order to avoid the second. Thus, every service function is in competition not only with the line, but with every other service function for the advocacy of top management.

What do we need to do to gain enthusiastic top management backing in this competitive world? Resting on acceptance will not do it, but an able sales program might. What kind of a sales program? There are no rules that are guaranteed to get results, but these three simple rules of selling may indicate what can be done:

(1) Study and know and respect your product

(2) Study and know and respect your customer

(3) Study and know and respect your customer more

Standards engineers should spend as much time, if not more, selling standards, as producing them. The sales effort should be an integral part of the standards program and should be intimately linked with the "basic good" of communication and understanding and with the "opportunity" of helping managers to manage better. As salesmen, standards engineers should study and know and respect their customers, particularly their most important customers — the top group who buy their service.

What motivates the top group? What impresses them? They are concerned with problems of costs, quality, customer service, competitive standing, and many others. Every standards engineer knows that his work helps. But does top management know it? No management can favor that which is vague or unknown. The price of support is publicity. No management can defend an activity that does not pay for itself. The cost of support is return on investment. No management can encourage a work that is not a cause for pride. The charge for support is vigilance. The standards engineer is in the business of providing a service in a competitive situation and must conduct his business with the same care and consideration that an anxious suitor would give to the belle of the ball.

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Mr Moore is Assistant Professor of Industrial Management at the Massachusetts Institute of Technology where he teaches a full-term course in industrial standardization.

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